BRITISH MEDICAL JOURNAL

LONDON: SATURDAY, JULY 20th, 1935

# ACUTE RHEUMATISM AND ITS RESULTS *

BY

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Acute rheumatism is one of the most important diseases of this country—because it is common, because it causes serious cardiac damage and produces reduced efficiency, ill-health, or chronic invalidism in a considerable proportion of its victims, and because it shortens many lives. Its history is comparatively brief: Shakespeare makes no use of the word rheumatism in its modern sense, and it was only in the year of his death that acute arthritis was first called rheumatism by a Frenchman, Gwilliam de Baillou.

## Sydenham's Descriptions

The first accurate clinical description was written by Sydenham at the end of the seventeenth century. He said: "The disease comes on at any time, but especially in the autumn, and chiefly seizes those that are in the flower of their age . . . it begins with shivering and shaking and presently heat, restlessness and thirst, and other symptoms which accompany a fever. After a day or two, and sometimes sooner, the patient is troubled with a violent pain sometimes in this, sometimes in that joint, in the wrists and shoulders, but most commonly in the knees. It now and then changes places and seizes elsewhere, leaving some redness and swelling in the part last possessed."

He described chorea too, but does not appear to have associated the two conditions. The picture of chorea is very good: "This disease is a kind of convulsion which seizes children of both sexes from the tenth to the fourteenth year. It manifests itself by a halting or unsteadiness of one of the legs, which the patient draws after him like an idiot. If the hand of the same side be applied to the breast, or any other part of the body, the child cannot keep it a moment in the same posture, but it will be drawn into a different one by a kind of convulsion, notwithstanding all his efforts to the contrary. Before a child who hath this disorder can get a glass or a cup to his mouth he useth abundance of odd gestures, for he does not bring it in a straight line thereto, but his hand being drawn sideways by the spasm, he moves it backwards and forwards till, at length the glass accidentally coming nearer his lips, he throws the liquor hastily into his mouth, and swallows it greedily as if he meant to divert the spectators."

## Towards the Modern Conception

But it is not until the year 1816 that we first find anything resembling the modern conception of the pathology of acute rheumatism. For whereas Sydenham, Haygarth, Cullen, and all the earlier writers had regarded rheumatism as essentially a disease of articular structures, Balfour took a wider and more modern view. According to him the seat of the disease was in the cellular membrane, and he wrote: "The cellular membrane abounds everywhere in the body . . . all the blood vessels receive a coat from it, from the aorta where it emerges from the heart to the minutest capillary that enters a tendon." Similar ideas were held by Charles Scudamore. His *Treatise on Nature and Cure of Gout and Rheumatism* (1819) constitutes the disease as "a peculiar species of inflammation, affecting parts which have a fibrous texture, and most frequently synovial membrane. . . ." He realized, as did Balfour, the remarkable predilection of rheumatism for the synovial membranes of the body, and gave as examples of this fact instances of inflammation of the dura mater and of the pericardium. "The pericardium," he stated, "also sometimes becomes the seat of similar morbid action which I conceive as secondary and induced by the inflammation which is affecting some part of the tendinous structures of the heart."

A French physician, Lasègue, made a statement which is so graphic that it ought to be preserved: "Rheumatism is a disease which licks the joints, the pleura, and the meninges, but it bites the heart." The greatest names associated with the development of our knowledge of acute rheumatism and its results are English. In 1843 Sir Thomas Watson pointed out that children as early as 3 or 4 years of age might develop carditis, and that the earlier they were attacked the more severe was the resultant damage. All the earlier writers thought in terms of endocarditis or pericarditis, and it was not until 1876 and later that the essential damage to the myocardium was recognized. This was the result of the work of Sturges, Barlow, Cheadle, Lees, and Poynton.

So we see that whereas early in the nineteenth century acute rheumatism was considered merely a disease of joints, with the occasional involvement of heart, brain, or lungs by a kind of metastatic spread, and that in the occasional cardiac involvement pericarditis was common, endocarditis rare, and myocarditis undreamed of, by the end of the century a very marked change in medical knowledge had caused acute rheumatism to be regarded as a protean disease commonly associated with serious results inasmuch as a characteristic type of inflammation involved blood vessels throughout the body but especially in the heart and synovial membranes. Moreover, it was recognized that rheumatism was essentially a disease of childhood, and that while the involvement of joints and subcutaneous tissues was of small importance, yet in every case some cardiac damage occurred.

* Abstract of the Ingleby Lectures delivered at the University of Birmingham on June 13th and 20th, 1935.

### Aetiology

Many and various have been the theories propounded to explain acute rheumatism, for the problems involved are complex and none is yet completely solved. Cold and damp were first suggested as causal factors, but chemical abnormalities such as an excess of lactic acid or uric acid have been suggested, and indeed were responsible for the alkaline treatment of the condition. J. R. Mitchell suggested that it was a trophic disorder, and T. J. Maclagan thought it was allied to malaria, and on this assumption sought and found a remedy (salicin) in the bark of the willow which grew where rheumatism was cost common.

The bacteriology of the disease began with Mantle's discovery of a diplococcus in the blood of a rheumatic child in 1886, and in the opening years of the century Poynton and Payne made a series of most careful and consistent investigations which resulted in a diplococcus being incriminated as the causal organism. Subsequent observers failed to repeat their findings, and very detailed serological and immunological studies have had no far-reaching results.

In 1895 Sir Arthur Newsholme, in the Milroy Lectures, considered the subject from the statistical standpoint, and came to some remarkable conclusions. That the disease is a specific disorder due to an infecting micro-organism ; that the disease follows an initial sore throat, tends to relapse, and predisposes to subsequent attacks. That the infectivity of any case is very low, probably because the organismal cause is concentrated about the joints, and that the infecting agent is probably a saprophyte which can become a parasite.

It has been suggested that the lesions of rheumatism are not due to any specific organism, and are not the result of a toxaemia, but are really allergic manifestations due to a peculiar tissue reaction in certain individuals. The known facts and the finding of absolutely characteristic tissue changes are against such a theory. The latest suggestion is that of Schlesinger, Signy, and Amies, who believe that they have recovered a virus from cases of rheumatism in children, and although it is too early to pronounce definitely upon this suggestion it fits the known facts very well indeed.

Rheumatism is a disease of temperate climates and is rare in the Tropics ; it is essentially a disease of childhood, and appears chiefly in the winter and spring, and in epidemics. In wards of hospitals small epidemics and epidemic recurrences follow streptococcal sore throats, but there are epidemic years in which the disease is at least four times as common as in the relatively free years. Girls are slightly more susceptible than boys, and there is a well-marked family incidence, but the most important known factor is environment, for acute rheumatism is a disease of the relatively poor. Still found that 13.1 per cent. of his hospital patients had rheumatism, while only 0.7 per cent. of his private patients suffered from it. The disease is really extraordinarily rare in our big public schools.

### Symptoms

The diagnosis of rheumatism is not usually as easily made in the child as in the adult, for the onset is less acute, and joint involvement is seldom so marked in the young. The rheumatic child may be anaemic, listless, and easily tired, may lose weight or more often fail to gain weight normally. Pains of a rather vague type are common in muscles or joints, are made worse by exercise or wet weather, and are relieved by warmth, sunshine, or a holiday. Epigastric discomfort is common, and is often associated with repeated sore throat. In other cases the child becomes unnaturally jumpy and fidgety, is emotional and incapable of sustained attention. Insomnia, night terrors, enuresis, or tics may appear. Such children react badly to the stresses of school, and may become frankly choreic. One of the earliest signs of chorea is irregularity of respiratory movement, which usually antedates the characteristic quick and irregular contortions of the face or limbs. It is important to recognize that such movements are not repetitions like a true tic.

But the first definite sign of rheumatism in the child may be a frank cardiac abnormality, and only too often when first seen the patient has a seriously damaged heart. As a rule some vague illness has existed for some time, but has not been sufficiently striking to demand attention. Irregular fever with sweating and some degree of malnutrition are commonly associated with early carditis. One of the first signs of cardiac rheumatism is a quickened pulse, the normal juvenile variation in the pulse rate disappears, and the pulse becomes unnaturally accelerated, especially during sleep. The heart sounds change in character—the first sound at the apex becomes soft, blurred, and accompanied by a systolic murmur. The second sound at the base may be intensified or split.

Change in the size of the heart in the early stages of carditis is a result of pericardial effusion, and is associated, too, with alteration in the outline of the heart, blurring of both heart sounds in all areas, an almost impalpable cardiac impulse and some degree of pulsus paradoxus. As the heart adapts itself to myocardial damage or valvular defects, enlargement of a permanent nature may appear, and the degree of this increase will give a useful clue to the prognosis, for the larger the heart the more serious is the damage. Acute dilatation of the heart, as a result of acute rheumatism or any other infection, if it ever occurs, must be exceedingly rare, for years of careful observation and frequent measurement, with the help of *x*-ray examinations, have never shown me a single example of the condition.

Electrocardiographic abnormalities are often found early in rheumatic carditis, but are seldom gross in really early cases and may completely disappear. Such are abnormalities of the QRS, flattening of T, and minor degrees of heart-block—lengthening of P–R. Gross change in any of the complexes, or the onset of auricular fibrillation always implies a most serious carditis and a poor outlook, but auricular flutter is sometimes found in children who do well.

Perhaps the most characteristic single sign in acute rheumatism is the rheumatic nodule. This is a subcutaneous lump which appears singly or in groups about the elbows, knees, metacarpo-phalangeal joints, wrists, and ankles. They may be found in great numbers or may be very scanty ; sometimes they appear in the scalp about the occiput and occasionally they are found along the iliac crests ; frequently they can be felt as peculiar small, slightly tender thickenings in the lumbar muscles. The lumps may appear or disappear with astonishing rapidity, although usually they remain for some weeks.

### Results of Acute Rheumatism

Rheumatic inflammation, wherever it appears, produces a characteristic microscopic lesion—the submiliary focus. It is common in heart muscle, pericardium, endocardium, synovial, and subcutaneous tissues, and is found in the adventitia and media of arteries in all parts of the body. The typical focus shows four distinct points in its structure :

1. A fibrinous matrix.
2. Certain large multinucleated cells.
3. Plasma cells or fibroblasts.
4. An aggregation of leucocyctes—darkly staining mononuclear cells.

At first the nodule shows an aggregation of lymphocytes and plasma cells, later the characteristic multinucleated cells appear, and finally the lesion is replaced by a patch of fibrous tissue. These foci are always accompanied by more or less marked changes in the parenchyma of the tissue invaded, and produce a considerable degree of vascular proliferation and hyperaemia. In the more chronic forms of acute rheumatism—especially that deadly yet mild type of the disease which gradually leads to mitral stenosis, the degree of fibrosis of the myocardium may be truly astonishing. It is of the greatest importance to realize that even in the mildest case the myocardium is always involved, the endocardium may escape ; when it is damaged, with consequent valvular defect, the lesion is preceded by changes in the valve leaflets, and the valves are not directly infected from the blood in the chambers of the heart. This statement is borne out by the common knowledge that the mitral valve is most frequently, and the aortic valve quite commonly, damaged, while the tricuspid and pulmonary valves are relatively seldom attacked. It is now held that damage is the result of both stresses and vascularity: the relatively avascular pulmonary valves, which sustain comparatively little stress, escape ; while the vascular and heavily stressed mitral valve is most seriously and most often affected.

Acute rheumatism is common: Sir George Newman has calculated that 0.8 per cent. of all elementary school children have rheumatic cardiac disease—50,000 cases in England and Wales. Carey Coombes showed that about 40 per cent. of all heart disease was rheumatic, that the average rheumatic cardiac patient lived to 28½ years, and that only 7 per cent. of such patients attained the age of 50. He also showed that nearly half the children who acquire rheumatism before the age of 5 years develop serious cardiac damage, while only a quarter of those who begin their rheumatism after 10 years become cardiac patients.

### Treatment

The first step, then, must be the education of civic authorities so that health may be ensured by well-built houses in sunny smokeless cities, which are not overcrowded and contain spacious suitable playgrounds. The second step should be the education of parents in the wise nurture of children, so that their resistance to disease may be high and good health may be preserved. This implies wise feeding, proper clothing, and adequate changing and drying of wet clothing and boots, as well as the early and careful attention to minor infections, sore throats, colds, and damaged teeth. When acute rheumatism, in any of its varied manifestations, does occur it must be recognized early and treated promptly and thoroughly.

To-day there are usually three great essentials in treatment. Rest is the greatest of these, and should be complete in the early stages and prolonged if carditis supervenes. Rest implies that the child is carefully nursed nearly flat in bed, fed, and so attended that the patient learns to make no effort or unnecessary movement. In severe carditis it may be necessary to continue this rest for months, and in any case the return to activity should be carefully graduated and watched to see what effect effort has on pulse rate and cardiac action. By means of really expert nursing the most severe carditis may be prevented from causing serious permanent damage. The second essential is the removal of foci of infection especially common about the mouth and nose ; for infected teeth and tonsils, whether they be the portal of entry of rheumatism or not, depress the general health of children. It may not be easy to decide when a tonsil is infected, but it is certainly abnormal if the glands at the angle of the jaw are enlarged, and such tonsils ought to be removed as soon as is possible, having regard to the general condition of the patient, because experience has shown that children with carditis who have had a complete tonsillectomy, and in whom the glands have subsequently disappeared, are definitely less likely to develop serious cardiac defects than those in whom the tonsils remain or have been imperfectly removed, or the glandular enlargement persists. Tonsillectomy after rheumatic infection has taken place will not prevent recrudescences, but it does tend to protect the heart from the more serious consequences of such recrudescences. Every measure calculated to improve the general condition of health should be employed. The child who puts on weight usually does well.

It has become the fashion to decry or at least belittle the use of salicylates, but there is no group of drugs which has so much influence over the rheumatic infection, nor is there any reliable evidence that any untoward effects follow large doses over a prolonged period. The natural course of acute rheumatism has recently been studied in America by four physicians, who watched a series of over a hundred children with the disease. These children were not treated with any anti-rheumatic measures. But the history of the condition, especially after 1876, with the introduction of salicin and the almost universal employment of salicylates in treatment, is far stronger evidence than that afforded by this brief study. To a child of 10 years it is quite possible to give 10 grains of sodium salicylate every hour, or 240 grains in each day, without any discomfort or even anorexia. To reach this dosage it is necessary to have the child at rest, to allow considerable amounts of fluid with the food, to maintain a milky diet, to ensure a regular action of the bowels, and also to give twice as much of the bicarbonate as of the salicylate of sodium. As children easily tire of any medicine it is useful to give two prescriptions with different flavourings to alternate every two or three hours, and to change the flavouring every three or four days.

Salicylates certainly abolish the pyrexia which results from rheumatism. They also remove pain from the affected joints ; but they do more than this, for they produce a restoration to their normal size and contour and a reabsorption of effusions be they peri- or intra-articular. If, then, salicylates can produce such effects upon the rheumatic process in the joints, why should not the same result occur in other tissues damaged in like manner? Given in adequate doses, salicylate does influence the carditis of acute rheumatism and does modify the course and prognosis of this most serious disease. But every known measure likely to benefit the patient and raise resistance is important, and none can be neglected: tonics, vitamins, and above all a prolonged sea visit, are advisable—the latter, alas! often very difficult to arrange. And when all has been done one can only hope that the damage left by the infection will be small, and the resultant incapacity relatively slight.

Let us hope that the future has greater things in store for those susceptible to rheumatism.

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V. de Lavergne and H. Accoyer (*Rev. d'Hyg. et de Méd. Prév.*, June, 1935, p. 421) state that during the period August, 1928, to April, 1934, twenty-seven cases of paratyphoid B occurred in a French battalion, twenty-six of which developed in epidemic form, while one was sporadic. Of the twenty-seven patients twenty-two had been inoculated or reinoculated, three had not been inoculated, and two had been inoculated in the incubation period, and therefore might be regarded as not inoculated. A severe attack occurred in four soldiers, three of whom had been inoculated and one not. All recovered. The cause of the infection was found to be contamination of the water supply.

# HEALING OF TUBERCULOUS CAVITIES*

BY

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A cavity in a tuberculous lung is a source of danger, and adds to the gravity of the prognosis. At the same time a large number of cavities heal without any form of collapse treatment.

The modern view that a cavity must be collapsed at all costs is open to the criticism that the danger of the treatment sometimes exceeds that of the disease. It is usually good treatment to try and collapse a cavity by artificial pneumothorax, but if this fails it does not follow that surgical methods, such as thoracoplasty or plombage, should be tried.

McMahon and Kerper (*Amer. Journ. Med.*, 1933, lxxx, 170) found that 27.7 per cent. cavities treated with simple medical means healed. They also state that prognosis varies with the size of the cavity. Spontaneous closure occurred in 40 per cent. of those not larger than 2 × 2 cm., but in only 6 per cent. of those over 4 × 4 cm. In a right-sided cavity spontaneous healing was twice as likely as in a left-sided, and three times as likely as in a bilateral, case. Healing is less likely in a peripheral cavity or a thick-walled one.

It is usually the type of disease rather than the presence of a cavity which renders collapse treatment necessary. In acute and rapidly spreading unilateral disease artificial pneumothorax is urgently needed before cavities have time to develop. If there are cavities when the patient is first seen collapse is still needed to check the spread of the disease as well as to close the cavities.

The thin-walled cavity which may appear early in the ordinary subacute adult type of the disease will often heal with rest and simple medical treatment, but unless there are contraindications artificial pneumothorax should be tried because it usually gives the patient a better chance and, if delayed, may become impossible owing to the development of adhesions. In almost every case of this sort pneumothorax is indicated for the disease, so that it is wrong to wait for the development of a cavity before inducing it.

The chronic cavity with secretion containing tubercle bacilli is a serious danger to the patient and, if it cannot be closed by pneumothorax, surgical methods are usually indicated. It is for this type of cavity that surgery offers the best chance. Apicolysis is the simplest operation, but its results are often disappointing. A partial thoracoplasty may close the cavity, but is often followed by spread of disease into the lower part of the lung, so that a total thoracoplasty becomes necessary.

The dry, chronic cavity in a patient with no toxaemia and few, if any, symptoms is usually best left alone, for the patient may have many years of active life. Periodical *x*-ray examinations should be made and surgical intervention advised in the event of spread of the disease.

Cases where the patient has no signs or symptoms but *x* rays show an annular shadow should also be left, and a major surgical operation is quite unjustified. They often disappear or come and go, although necropsy shows that most of these shadows are cavities. Some are probably due to bullae in the lung even if a fluid level is seen, and it is this type of shadow that varies from time to time.

I fully appreciate the enormous strides made by thoracic surgery in recent years, and know that it has given a new lease of life to many whose condition would have been hopeless some years ago. The object of this paper is not to underestimate the value of surgical treatment in these cases, but to point out that it is a serious thing to remove a large part of eleven ribs from a patient, and that such a procedure should not lightly be recommended.

* A communication to the Association of Physicians, June 7th, 1935.

# TEMPERAMENT AND DIGESTIVE DISORDERS*

BY

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The use of the word *temperament* in this connexion lacks accuracy. The temperament of a man may be provisionally defined as the sum of the effects upon his mental life of the metabolic or chemical changes that are constantly going on in all the tissues of his body (McDougall, *Outline of Psychology*, p. 354). More correct would be *temper*—that is, the expression of the way in which the conative impulses work within him (ibid., p. 353).

The attitude I am taking towards disturbances and diseases of the digestive organs is, I will frankly confess, interrogative, and I might give as an alternative title: "What sort of man tends to suffer from some specific kinds of digestive disorder?" Any answer I may propose is quite tentative. I feel, indeed, that it is rather an impertinence for me to venture upon the subject of digestive trouble to which others have devoted years of attention, though as evidence of good faith I will inflict upon you a personal reminiscence.

I had the good fortune to go into general practice immediately upon qualification, and after two years to return to hospital and take up house appointments. I had become aware of my ignorance in the treatment of common digestive troubles and decided to make up that deficiency, so when I became an out-patient clinical assistant I sought the permission of my chief to "special" the chronic dyspeptics and keep them for myself. I still remember the alacrity with which that permission was given, but I knew too little to be daunted by it; I had these cases for my own. I read up the subject; I took what I then regarded as full histories; I drugged and dieted the unfortunate patient; and at the end I felt that I must be a complete fool, for I had learnt nothing, not perceiving that to realize that was to learn a valuable lesson.

Surgery was then going through the fashion of "pexies"; nephropexy, colopexy, gastric plication or gastro-jejunostomy for dilated stomach, were familiar operations. I could to-day describe three different and equally ingenious operations for fixing a movable kidney, but even then surgeons were growing wary of these operations, for the very sound reason that the patients made themselves such a nuisance afterwards.

### Visceroptosis and Neurasthenia

Turning to my 1901 edition of Osler—a valuable edition, if read in a historical frame of mind—I find a chapter on visceroptosis in which the author notes: "It has been suggested by Glenard and others that the vascular dis-

* A paper read at a staff meeting of the Institute of Medical Psychology, May 20th, 1935.

turbances in the abdominal viscera in consequence of displacements and kinking account for the feelings of exhaustion and general nervousness." Again, "Some of the more aggravated types of visceroptosis are combined with such features of neurasthenia that a rigid Weir Mitchell treatment is indicated. . . . In a few very refractory cases surgical interference may be called for." We must remember that this period marked the closing years of a dark age in the history of psychology in medicine. The anatomical, or metaphysical, conceptions underlying the use of the word neurasthenia were in accordance with the spirit of the times, which demanded that an anatomical cause should not merely be sought but postulated as actually existing for a collection of symptoms summed up with complete satisfaction under that word.

Satisfied with neurasthenia as a signpost pointing along the path to a really scientific handling of the patient, we thought vaguely of Galen's doctrines of temperament as an amiable, if well-intentioned, failing, which had rather hindered the progress of medicine. But Galen and his successors knew what they were seeking—a correlation between physiological and psychological make-up. They were clinicians, and a return to their methods of approach may teach us something. Let me quote from Stahl—familiar to you as the author of the phlogiston theory, which, considered in the light of contemporary philosophy, was not nearly so foolish as it is made to appear:

"The melancholics are fairly satisfied and content with the present, but live in a perpetual state of anxiety about the future. Full of doubts and suspicions they weigh everything with exactitude and then make their conclusions; anticipating, however, not what is useful and pleasant, but troubles, adversities, mysteries, and dangers, except that they nearly always fix their attention more on what *may* in the far future turn out badly than on what *is* already in actual fact either going wrong or leading in that direction. Hence they always act with circumspection, care, and forethought. They are given to application, ready for moderate exertion, perform their duties with attention and industry and with overanxious care. They are watchful and indefatigable except in so far as fear and the panic that it engenders in violent crises nullify their strength for the time. In extreme difficulties they are not so much purely and simply desperate, but rather hurl themselves with strange force to (or at any rate concentrate all their attention on) the extreme remedies of the most extreme form of the present ills. They hold fast to their intents though they do not embrace them in the beginning without reason or some special, and to themselves wholly plausible, show of reason. They are averse from deceit except in so far as necessity drives them to dissimulation. They love justice and equity, and being averse from simulation because they know that false accounts of true events are futile, they remain, no matter what others may be, true and incorruptible judges. In friendship they are faithful and sincere, but not ready either to make or trust friends. It is easier for others to expect justice and goodness from them than for them to expect such things with any confidence from others. They are always suspicious and fearing the worst. They are not lazy where work is concerned, but given to application and eager to perfect their undertakings rather than favouring careless, superficial, and tentative action. They are given to speculation on everything that may happen. They love moderation, proportion, certainty. In difficulties they never indulge in moderate fear, but always anticipate the worst." (*Theoria Medica Vera, circa* 1720. Translation by Miss V. Hill.)

Now I will try an experiment upon you. I think we all, as clinicians, know more than we think we do, and sometimes express it as intuition. Can you imagine the type of man described above as suffering from visceroptosis? I am sure that some of you at least will feel that he is not that sort of man.

### The Stance of the Nervous Child and Adult Visceroptosis

Leaving for the moment the discussion of what form of intestinal disturbance he *might* be expected to present, let us turn to the question, "What kind of man does suffer from visceroptosis?" To this I had given no thought until about 1922, when I heard Dr. H. C. Cameron describe what he called the stance of the nervous child. He sketched a picture of the child standing with shoulders drooped, chest sunken, lumbar spine lordotic, and abdomen protuberant, and subsequent speakers agreed with his observations—which I have confirmed myself—and one pointed out that if the child's disposition changed from dejection to truculence the stance changed with it. When Dr. Cameron drew this picture on the blackboard it seemed somehow familiar to me, and suddenly I associated it with the stance of some "neurasthenic" war pensioners, of the man we used to hear say, "I was an A1 man when I joined the Army, and look at me now."

Whether the visceroptotic adult was a depressed nervous child I cannot say, nor why one child should express dejection by ventro-dorsal yielding to gravity while another yields laterally and presents an adolescent scoliosis. As to this latter, I will quote Mr. Blundell Bankart, who once wrote: "If you want to know whether a girl has scoliosis look at her back. If you want to know why she has it and how to treat it, look at her face." If physical examination of an adult reveals traces of an adolescent scoliosis it is usually a safe gambit to remark: "You were not very happy as a child."

My evidence for the connexion between scoliosis and emotional history is anecdotal rather than statistical. I cannot present even such weak evidence for an original connexion between adult visceroptosis and the stance of the nervous child. Poor, however, as the evidence may be, I suggest that, in a stance expressive of mental dejection, and in asthenic emotional interference with gastric and intestinal motility, we have the origins of the coexistence of nervous symptoms and visceroptotic signs.

Consideration of the relative position of horse and cart in this relation will probably, in this age, result in the nervous—that is, emotional—factors being regarded as primary. But we shall miss the moral of the story if we feel intellectual pride in our improved outlook when it is compared with that of the ingenious surgeons who took a generation to discover that, as one eminent abdominal surgeon put it a few years ago, "virginal visceroptosis should not be operated upon." The true moral of the story is that a fundamental alteration of our attitude towards the influence of emotional states upon bodily functions has taken place; an alteration which enables us to perceive relationships in a different perspective. Sporadic references in recent literature indicate this change of attitude, especially towards abdominal disorders. An article in the *Journal of the American Medical Association* about three years ago described, for example, cases of spasm of the colon, some of the patients being operated upon as abdominal emergencies, in which investigation revealed current emotional stress as the cause of the condition. Even while preparing these notes I read in an article on paralytic ileus: "The cause of paralytic ileus is obscure, but apart from toxaemia there is probably a nervous factor. Anxiety at the thought of an operation may cause overaction of the sympathetic, which is known to have an inhibitory effect on intestinal peristalsis." I was reminded by this of two cases of my own—one of a recently strangulated hernia, the other a case of acute appendix of a few hours' duration—in both of which the patient, a young adult, reiterated before the operation, with considerable emotion, that he would die. The operations were simple and there were no warning

signs, but in each case the abdomen became distended after operation, nothing relieved this distension, and a post-mortem examination showed no cause for it. Both occurred in the Army in war time, and though the story proves nothing, it may yet provide food for thought.

Mucous colitis is apparently passing out of fashion ; I should like to hear opinions from others on that point. Even in the dark ages the clinician recognized its correlations, for Osler says: "The cases are almost invariably seen in nervous or hysterical women or in men with neurasthenia," and decides that "it is probably not an enteritis but a secretion neurosis." I must plead guilty to having read that statement in my student days without being prompted to ask my teachers, "What is a secretion neurosis?"

### Emotional Stresses of Gastric Ulcer Patients

Gastric ulcers do not come to the psychotherapist as a rule. In seventeen years I have recognized only three cases. One, that of an ex-service man at the Ministry of Pensions clinic, taught me a useful lesson. I forget all about the patient, except that one day he said to me: "These pains in my stomach are different from my other troubles, doctor." I examined his belly and found a rigid right rectus ; I sent him into hospital, and a gastric ulcer was operated upon. The lesson was not the need for thorough examination of the neurotic patient, for I do not know why that need should be stressed any more than for the patient with flat-foot. The diagnosis should be made on positive grounds in each case, though the wary clinician will always be on guard lest other conditions may be present. The lesson I learnt was that the patient, the so-called neurotic patient, can co-operate in separating "organic" from "functional" symptoms, and in later cases I have frankly discussed with the patient whether a specific symptom is "nervous" or not.

In two people sent to me for psychological treatment of undoubted psychogenic symptoms I have, by following that principle, been led to suspect a gastric ulcer. In one case the diagnosis was so certain to me that I sent the patient straightway into hospital, where it was confirmed. In the other, not so clear-cut, she went into a team-work establishment. Her nervous symptoms were bad enough for her to be sent to me for their relief, but in the report from this institution the only note on the subject was that the patient was highly neurotic. Laboratory methods failed to reveal the ulcer, which perforated six weeks after the patient left the establishment. I do not tell this story to show what a fine diagnostician I am, for I only thought the symptoms suspicious enough for investigation, but I do wish to point out how handicapped is the clinician whose attitude is revealed by the words, "the patient is highly neurotic." He will remain blind to any connexion between the *kind* of patient and the *kind* of intestinal disorder, and, more important still, he will not receive the co-operation of the patient in evaluating subjective evidence. Unfortunately, I cannot tell you any more about these patients, except that they suffered from anxiety ; my methods of examination were not so systematized as they are now. But they obviously all three had *insight* ; they recognized the emotional origin of some symptoms and the different origin of others ; and that, you will agree, puts them rather in a special class.

### "Neurasthenia" and "Gastric" Disorders in Industrial Sickness

I have been obliged recently to consider the subject from another aspect. The study of sickness returns, now available from some firms that keep records and from sickness insurance figures, shows a peculiar negative correlation between disability from the "nervous" group of disorders and the "gastric." I have seen graphs showing how they vary inversely with each other, and in a few cases I have satisfied myself why this peculiar relation occurs. In a lecture published several years ago I gave a table showing how, in one firm, there had been a sudden drop in "neurasthenia" by 40 per cent ; the total sickness, however, remained the same, the subsidence in the neurasthenia group being balanced by the rise in the "gastric" and anaemia groups. The name of the firm was, of course, withheld, but after publication I received a letter from the medical officer of the firm telling me that he recognized his figures and could account for the change. He had been alarmed at the lost time from "neurasthenia," and, without being unsympathetic, had inquired into all cases of absenteeism from that cause, with the result I had noted. In another firm, whose figures are available, the totals show an absenteeism rather above the average, but the "nervous" group is very low ; acute gastro-enteritis stands high, and the average duration of absence from that cause is eleven days, as to which I would remark that if I had a patient with acute gastro-enteritis who was not well, or dead, within a week, I should think of arsenical poisoning. Dr. Halliday of Glasgow has come upon a similar curiosity in his examination of 1,000 people drawing sickness benefit. Of seventy-two cases diagnosed gastritis he found fifty of the patients to be suffering from a psychoneurosis, and of twenty-two diagnosed gastric and duodenal ulcer nine were cases of psychoneurosis (*Supplement, British Medical Journal,* March 9th and 16th, 1935, pp. 85, 99).

These figures, however, are outside my main theme. I give them to emphasize some of the difficulties in investigating industrial sickness, though I fully realize the dilemma in which the panel practitioner is placed by the official demand for a diagnosis. The difficulties have been made more significant because it has been suggested to me, as an investigator, that specific occupations carry with them a special liability to gastric disorders. Meanwhile I turned to the literature and to talk with clinicians. A line of inquiry was suggested by a communication to the *British Medical Journal* (1930, ii, 265) by Mr. Harold Dodd, who noted that in a series of twenty-nine male cases of operated gastric ulcer the patients could be divided into three groups: (1) The driver class ; (2) a class of casual workers ; and (3) foremen, clerks, managers, and retired business men—men in responsible positions. A curious grouping, including what Mr. Dodd described to me later as "those who drive vehicles and those who drive themselves." (Thirteen cases were in transport drivers.)

### The "Obsessional" Subject

Now I must digress to the way of approach by psychological interviews. In my investigations for the Industrial Health Research Board into the prevalence of psychoneurotic or temperamental difficulties in the general population, I had systematized a method of examination that allowed me to classify cases according to the severity of the symptoms discovered in the course of a half-hour interview. My colleague, Miss May Smith, took a record of each subject's performance upon the McDougall-Schuster dotting machine, and we found a statistical correlation between those records and the severity of the symptoms as expressed by my classification. Severe symptoms correlated with a bad dotting, as might be expected in a test originally planned as a measure of neuro-muscular co-ordination. (This correlation is not true in every case, for other factors than the nervous symptoms are operative, but, spread over a sufficient number of subjects, the two methods of measurement do show an agreement that is of statistical significance.)

But, occasionally, I would mark a subject at a high figure for symptoms, and he would put up an exceptionally good dotting record. This rather spoilt the general correlation, but it had to be accepted. Then one day

my colleague put before me a set of my own case notes and said: "Can you see anything common to those cases?" After a little study of them I said: "They are all obsessionals." "Well," she replied, "those are the ones who are spoiling our correlations!" So one problem was solved, only to open up another. (Not all obsessionals did a good dotting; some were very bad.)

I use the word "obsessional" more freely than it is used in the textbooks, for my work led me to recognize minor obsessional tendencies that do not interfere seriously with happiness or efficiency. For instance, one patient hit all the circles in the test, although the test was so designed that no one was expected to complete it. On turning to my notes I found that this man was bothered by an obsession to move, when in a room with other people, so that they should be in the relative position of the bishop's move at chess; so bad was the obsession that he gave up playing chess in an effort to free himself from it.

Why should that symptom have relation to a superfine dotting record? It puzzled me for a long time, but I think I know the answer now. Janet has described people among his "psychasthenics" whom he called *les scrupuleux*—a good substitute title for Stahl's "melancholics"—and I came to see that the scrupulous traits of the obsessionals were associated with inordinately good dotting, then that it was more especially, and more intelligibly, a peculiar inner urge to performance that produced the phenomenon. The sufferer from this urge is impelled to strive always after an ideal, and this striving is called forth in the extreme by a test which has been described as "containing its own stimulus." The little circles go faster and faster, and the inner drive of the obsessional subject makes him pursue them as if his life depended upon the result—nay, more than his life, his self-respect. I now recognize the grim determination with which these people react to a test before which the more easy-going of my experimental subjects soon smilingly admit their defeat, or which reduces anxiety subjects to a state of exhausted resignation.

It is probably going too far to assume that all obsessional subjects possess this inner drive, but we may safely suppose that an excess of obsessionals in any group bears with it an excess of people with the drive. Two occupational groups that I have investigated show an excess of the obsessional type—art students and scientific workers; and in another group of clerical workers that had been subjected to a shrewd though non-academic form of psychological selection there was a diminution of anxiety and hysterical people with a relative excess of obsessionals.

### Distribution of Obsessional Types among Gastric Cases

I had for some time wished to apply these methods of examination to groups selected not by occupation but by sickness, and the opportunity at last arose to ascertain how recognizable psychological types were distributed among actual gastric patients—that is, patients being treated primarily as gastric cases and not for any other reason regarded as calling for attention. By the kindness of Mr. Dodd and the help of Mr. Merton, a trained psychological worker, such an investigation was set going. Although it is not completed, it has gone far enough for me to tell you that the results, when published, will show a great excess of obsessional subjects afflicted with the "inner drive" together with anxiety subjects. Such an investigation has the great advantage of lifting the evidence from the anecdotal to the statistical level, but until the full results are available you must be content with anecdote.

*Case 1.*—The patient, a married woman aged 50, who has two children, and is engaged in house work, had an operation for chronic pyloric ulcer on December 31st, 1934. She has a weak handshake and an anxious expression, complains of headache, is nervous, and goes shaky all over at the slightest thing, and is worried by a mentally deranged daughter, who lives with her. She experiences general floating anxiety; when on a holiday she has a restless feeling and "wants to be back." There is excessive indecision and she gets "worked up" about it. She eats very fast. Although "fed up" with housework she feels she must keep her home spotlessly clean. She is unable to take work easily; "I have to go hard at it," she says, "I can't keep still." She is always thinking of others, and at night cannot stop thinking. "I'm tired and can't sleep. I think, think, think, untjl I can't think any more," and the thoughts are apparently of an obsessional nature. She has *sentiment d'incomplétude* and a tidiness ritual, and is very upset if things go wrong. She is very self-controlled, and inclined to be proud of it.

*Case 2.*—A clothing salesman, aged 61, married, with two children, had an operation for gastric and duodenal ulcer on February 7th, 1935. He is financially worried, and afraid of the "sack," but no anxiety symptoms are elicited. His handshake is firm and his manner confident. He works full out and takes games seriously. He says, "I feel driven, even at home—must keep going—can't be idle—even at gardening I go hard at it." He has *sentiment d'incomplétude*, sometimes going back two or three times to make sure he has done something, and a tidiness ritual, and if put out he must "do it over again" He cannot divide his attention, but has his mind on the work in hand the whole time, even at home. He is very self-controlled.

And here is a case of my own, in which investigation was carried out beyond the eliciting of symptoms and temperamental peculiarities.

*Case 3.*—The patient is a professor of chemistry, aged 35, married, with three children, who has had indigestion since the age of 19. Gastric ulcer has been suspected, and he has gradually cut his diet down by the avoidance of eggs, meat, etc.; he claims that eating a piece of cake containing egg is followed eight hours later by severe intestinal spasm. His parents were very strict and rigid in their beliefs. He declares that he had no knowledge of sex until the age of 18; such a statement, when made by an intelligent and well-educated man, indicates a hysterical dissociation. He was always a "scholar." He now prefers research to routine teaching, although his indigestion is worse when engaged on the former. He has some mild anxiety symptoms—for example, he worries over any college dispute, and says that he "fights" it over again at night; but he is self-controlled and never loses his temper. He is troubled by indecision and "has to fight it" (an obsessive symptom). Sometimes there is a feeling that he "can't think clear," which lasts two or three days and is associated with insomnia. He says he must use all his energy: "If I didn't go all out I shouldn't feel satisfaction."

This man conforms temperamentally to the type I associate with gastric ulcer, but his dietetic limitations, though of a kind frequently observed in other cases, were not typical. He expressed a desire for psychological treatment, and I started him on the process of free association. To my surprise and his own amazement he at once plunged into a welter of symbolism that indicated an exceptionally rich unconscious fantasy life behind his adolescent ignorance. Much of the symbolism referred to food, and on one occasion, after producing many associations on the subject of eggs, he said: "Now I know why I couldn't eat eggs." After nine sessions he left London, and he has written to say he now eats meat and eggs without the extreme trouble he had learnt to expect, though some discomfort still follows.

It is too much to expect a "cure" from this experiment, but the case suggests an analogy with other psychoneurotic manifestations. A war stammerer, for example, had suppressed most of his war memories and symbolized them in the stammer, so that each difficult initial, each grimace or tic, each gurgle, bore reference to a specific experience. A lady with writers' cramp had found in it expression of many different items of her unconscious fantasies, a fairly lengthy analysis allowing us to trace the gradual increase of the symptoms by the accretion

of more and more symbolisms. In Case 3 the dietetic limitations had probably grown by a similar accretion, though I regard this phenomenon as independent of the main theme of the relation of gastric symptoms to temperamental make-up, the symptoms being, I should think, generally void of specific meaning to the patient.

I could produce other cases showing this association of inner drive with gastric symptoms. One patient had been radiographed, told he had a "hypertonic stomach" and an appendix "not emptying properly," and was advised appendicectomy. At an interview he told me he had decided it was nervousness that upset his stomach, and he wanted advice as to continuing a very lucrative occupation in which a specific drive had translated itself into action as speedway racing.

If I stood alone in these views I might not have ventured to put them before you, but although the approach to the subject was my own I cannot claim originality. In 1924 von Bergmann referred to the generally accepted belief that a strong emotional factor contributes to the cause of ulcer, and urged physicians not to be misled by the stolid mien of the Holsteiner, beneath which the tension of emotional conflict may be terrific. (The Holsteiner, I am told, corresponds to our "Essex born and Essex bred, strong in the arm and thick in the head.") This reference I have borrowed from a lengthy article by Draper and Touraine in the *Archives of Clinical Medicine* (April, 1932), in which the physiological and psychological make-up of the "ulcer race" is contrasted with that of the "gall-bladder race." These workers had carried out a psychological examination of the two "races," and although, unfortunately, such an examination is not yet standardized, either in its method or in its nomenclature, yet I can recognize in the results an identity in some points with my own results and with the description of Stahl's melancholic. They emphasize the femininity of the ulcer race—an aspect that has not thrust itself upon my notice—and give detailed histories of the emotional stresses of their ulcer patients.

The inner drive, to which I attach importance, is not referred to by them specifically. It may be concealed under "enthusiastic motor and psychomotor activity" and "overpreciseness," and on reading through case details I found abundant evidence of "drive" in such phrases as: "She was always in a hurry, ran, and never walked." . . . "I am the fastest bricklayer in New York." . . . "He was always driving at his work." . . . "I can do in one day what it will take another man two days to do." . . ."She was always in a hurry; she worked hard all the while." . . . "The patient always kept busy and active." . . . "She was inclined to be active, on the go, probably overactive." . . . "I work too fast; my reason tells me one thing and my emotion another." . . . "He had by great determination become the driving executive head." Here is positive evidence of the drive in nine cases out of twenty-two, evidence produced by people who were not looking for it; there is weaker evidence in others, but in none is there a picture of the common type of nervous patient who has sought to evade the curse of Adam and used psychoneurotic symptoms as a means of escape.

### An Explanation of the Association

There is, then, a psychological state to be found commonly associated with gastric ulcer. I do not like armchair speculation, but my physiological bias makes me seek some possible explanation of this association. I am inclined to picture it as the result of the state of continued tension acting upon gastric motor and secretory activity.

But what of the other group? Those who drive, not themselves, but mechanically propelled vehicles. Mr. Dodd will forgive me for being the vehicle of the statement that the statisticians will not admit his figures as being more than suggestive. They ask, for example, what population he is drawing his patients from, and also other awkward questions that I have come to expect from statisticians, whose control, however, I feel more and more to be necessary in any investigation.

There is, nevertheless, a general belief that transport workers have an excess of gastric trouble, but I do not feel tempted to start an investigation into a *why* until the statisticians have answered the *whether*. My earlier digression into sickness returns explains some of the difficulties before them. It occurred to me, however, to turn to death rates, where diagnosis is more accurate than in sickness returns, and I found that the death rate from gastric ulcer among females has been stationary, while that for males has doubled, between 1921 and 1931. "Ha!" thought I, "increase in motor transport—the obvious explanation." But the Registrar-General gives corrected death rates for occupational groups, and we find that the rate from gastric ulcer in transport workers is actually well under that for unselected males.

So far, then, evidence for the general belief is lacking, but we may glance at the general conditions of road transport from the psychological point of view. Driving demands constant attention, and I have learnt that in industry the opportunity of dividing attention while at work has an important influence upon the well-being of the worker. Monotony is often only in the eye of the beholder, and provided the work allows of day-dreaming there is little or no stress. But if the work, without being intrinsically interesting, demands constant forced attention then something happens—perhaps irrational discontent, excessive sickness, absenteeism, or a heavy labour turnover. Constant forced attention may be a characteristic of lorry driving, and may lead to physiological results similar to those produced by the inner drive of the obsessional subject—in other words, an outer is substituted for an inner drive.

This is speculative, but I take every opportunity of talking with transport drivers. Some are happy at the job and some are not. Here are some expressions used by the latter group: "You are working under agitation all the time." . . . "You've got to have your mind on your job." . . . "I'm all out as hard as it's possible to go." . . . "It wouldn't do" (in answer to a question about dividing attention). There is a striking likeness between this phraseology and that of the people with the inner drive; the physiological results may be identical.

In conclusion, I do not claim to do more than indicate a probable factor a little more definite than the already accepted emotional cause of stomach disturbances. You must not think that this drive—of which you are getting rather tired—is always of pathological import; in many people it is an admirable and useful character trait, and perhaps accounts partly for the saying that the best work of the world is done by neurotic people. Nor, when pathological, is it necessarily associated with gastric disturbances. It may, indeed, appear in any combination of psychoneurotic symptoms, but most often in a make-up diagnosed on other grounds as obsessional, sometimes to a severe and disabling degree.

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Miss Louisa Lye of Luton and Brighton, daughter of the late Thomas Lye, founder of T. Lye and Sons, bleachers and dyers, of Luton, left £24,000 and her Brighton residence to the trustees of Bute Hospital, Luton, to establish a convalescent home in connexion with the hospital, to be known as the Thomas Lye Convalescent Home, £2,000 to that hospital to endow a bed or beds in memory of her parents, and £100 for general purposes.

# INDUSTRIAL DERMATOSES

## WITH SPECIAL REFERENCE TO SOCIOLOGICAL ASPECTS*

BY

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The late Dr. Prosser White, who made this subject his lifelong study and whose book *Occupational Affections of the Skin* has become a classic, gives a rough estimate of new cases of industrial dermatoses in Great Britain for one year as being from 18,000 to 19,000. A further indication of the incidence of skin disorders is afforded by figures given in the current report of the Chief Inspector of Factories and Workshops for the year 1933. Out of a total of 3,465 young persons rejected for employment for medical reasons, no fewer than 1,712, or roughly 50 per cent., were refused for affections of the skin, the largest single cause in this group being pediculosis. In the same report, in a list of causative agents producing dermatitis, in 988 cases four groups easily distance all others. They are alkalis, 180 ; dyeing and calico printing and the use of dyes in general, 164 ; engineering, 126 ; and oil, 112. " Runners-up " in this list are " friction and heat," 84 ; metal-plating and polishing, 80.

The legislation included in the comprehensive title of the Workmen's Compensation Acts has made an enormous difference in the importance of these disorders. Perhaps the best way of illustrating the overwhelming influence which these Acts have exercised will be to give some figures.

### Increase in Compensation Cases

It is now thirty-eight years since the first Act was passed in 1897. It dealt only with accidents. Occupational diseases other than skin diseases were added later (1901). At the present time two compensatable diseases affecting the skin are scheduled: (1) dermatitis, produced by dust or liquids ; (2) ulceration of the skin, produced by dust or liquids. The incapacity caused by dermatitis is undoubtedly very much greater than the Acts allow for, and it must be understood that only a small proportion, perhaps 5 per cent., of the compensation claims hitherto made are concerned with diseases of the skin. At the time when the first Act was passed it was estimated, and the monetary arrangements were upon the basis of the calculation, that 150,000 accidents within a year would be the average. This incidence has been grievously underestimated. In the year 1930, in the seven principal industries for which accurate statistics are obtainable, the number of cases of compensation under the Act was 461,130.

This Act, with its many subsequent additions, and the Employers' Liability Act of 1880, have been responsible for an increase in cases of compensation not to be numbered by thousands but by hundreds of thousands, and the cost is not a question of tens of thousands of pounds but of millions. The courts have progressively widened the class of cases to which compensation is awarded, until the tax upon individual industry has become a very serious burden. For example, the actual compensation paid to coal miners in the year 1930 represented an additional charge of nearly 3d. per ton on coal raised, and probably another 1d. per ton should be added for the legal, medical, and administrative expenses involved in assessing the compensation.

The total sum paid in the year 1930 in the seven industries cited, together with the charges and expenses involved in assessing, came to eight millions sterling, and the Home Office estimated that the total charge of all industries and employments under the Acts amounted to something like twelve millions sterling for the year. (Collie, *Workmen's Compensation*, 1933.) Until 1906 compensation was refused in cases where the mischief was attributable to " serious and wilful misconduct," but since that year a workman's own carelessness and neglect, although it may have caused or have contributed to the injury, does not preclude him from recovering compensation.

It is clear from these figures that the responsibility of the medical man to the community is very serious. The practitioner confronted with a case which may go to the law courts, and which will therefore entail his attendance and evidence there, should take very careful written notes *at the time of his examination of the patient*, in view of the probability that he will be called upon to face cross-examination in the witness-box. A still more frequent difficulty arises in the decision which the practitioner must make—whether the patient can or cannot return to his work, and the time during which he should be regarded as disabled.

There can, I think, be little question that these Acts have produced a psychological effect, quite sincerely felt by the patient, in the direction of prolonging the period of convalescence and promoting unwillingness to return to work, and the harassed practitioner has to steer a middle way between his duty to the State, of which he himself as a taxpayer is an integral part, and his duty to the patient.

### Reaction of the Skin to Irritants

As I have said, I can only speak in general terms on the part played by the skin in these injuries. The reaction of the skin to a direct irritant may be said to depend upon two factors: (1) the strength of the irritant ; and (2) the resistance of the individual. Certain substances in certain strengths will inevitably produce destruction of the skin in any individual subjected to their contact, but the reaction of individuals to irritants in more dilute concentration is very different. The normal intact skin offers a very remarkable protection to most poisons applied to the surface, even including bacteriological infections. In the days before gloves were worn in conducting post-mortem examinations—and I can remember those days very well, and have myself carried out these examinations without gloves—one had to be meticulous in inspecting one's hands before beginning the task. The slightest abrasion or cut made one hesitate to undertake it.

This protection is partly mechanical, and is due to the happy resistance to solvents of the substance keratin, which forms the greater part of the horny layer of the skin. Keratin will stand prolonged maceration with mineral acids, but it is soluble even in cold, weak solutions of potash, soda, and lime. Protection is also partly afforded by the secretion of the sebaceous glands, which exude a useful waterproof material. Fat-dissolving agents allow of ingress more readily than others, and the removal of protective fat gives the first opportunity of an injury. It is this circumstance which explains the large part that maceration by fluids plays in producing dermatitis. Housework, for example, which usually includes prolonged soaking of the hands in water, commonly with some alkali added to it such as soap or soda, caused 35 per cent. of a large series of cases of dermatitis in an industrial skin clinic under Guy Lane's observation in the United States.

The follicular orifices of the skin, involving as they do a break in continuity, are a weak spot in the protection afforded by the integument. The follicle is the usual

* A paper read before the Advisory Medical Committee of the Industrial Welfare Society, May 21st, 1935.

entry for septic infections which culminate in the production of boils and carbuncles, and for the injury that results from the application of oil as in the case of "mule spinners," in whom, unfortunately, the initial irritation of the follicle may, and does, not infrequently result in cancer.

### Sensitization and Idiosyncrasy in Skin Disorders

A remarkable case of the effect of oil came to me from an insurance company in connexion with the Employers' Liability Act. A man employed in transporting colza oil in a barge on the Thames upset a keg of the oil over his person and was drenched with the fluid from his waist downwards. He wore the same clothes soaked in oil for three days consecutively, and when I saw him a few days after the occurrence almost the entire surface of his skin from the waist to the ankles was occupied by follicular pustules of the impetigo of Bockhart type. In this instance I was able to establish a persistent history of boils during the previous five years, and the man had, in fact, the remains of a carbuncle on his neck at the time of his visit. In reporting to the insurance company I gave it as my opinion that there was a contributory cause (in the sensitization of the patient to *Staphylococcus aureus*) for the very remarkable reaction following upon maceration with colza oil, which, in itself, as an analysis showed, was of extremely innocuous composition.

It is an interesting question whether repetition of stimuli increases or diminishes the natural immunity of the skin. The weight of evidence is in favour of diminution, but this conclusion is not universally accepted. A very striking experiment was reported by Professor Cash of Aberdeen. He investigated an epidemic of dermatitis due to satinwood powder. He isolated a crystalline substance from satinwood and applied it to his own skin. He suffered no inconvenience upon the first application, but twenty-two days later he repeated the experiment and had an immediate and violent inflammation. Sensitization to this particular irritant remained with him, for he suffered a similarly severe result from the application of the agent after three years' interval, during which he had had no contact with the substance.

The infection of a primary dermatitis, which may be due to mechanical or chemical causes, by septic organisms will often produce a complete transformation of the objective appearance and thus mask the original cause. The organisms almost universally responsible for these secondary infections are the *Staphylococcus aureus* and the *Streptococcus pyogenes*. These organisms grow most successfully in parts of the body where warmth and moisture are prevalent—for example, in the groins and flexures generally. Most cases of "weeping eczema" are really due in great measure to the secondary infection of a primary dermatitis.

In any estimation of the cause of skin disorder of external origin the question of individual idiosyncrasy must be carefully considered, especially in cases which threaten to come to the law courts. Individual sensitization may be found in an unusual degree, as in the case recorded by C. J. White, professor of dermatology at Harvard, in which a child of 6 died as the result of coming into contact with a negro servant immediately after that servant had been handling poison ivy, *Rhus toxicodendron*. Lacquer, which is the product of another plant of the Rhus genus, may retain its mischievous activity for a very prolonged period. Thus, a lacquer vase found during excavations in Japan produced a rash on the workman handling it, notwithstanding the fact that the vase had been buried in the soil for many hundreds of years. In this connexion I recall a wonderful exhibit in the Japanese pavilion at the Paris Exhibition of 1900, of a large lacquer box, the property of the Mikado, the date ascribed to its production being round about the year A.D. 500, which indicates how old is the manufacture of lacquer in Japan.

### Carcinogenic Substances

The important quality which has been called carcinogenic—that is to say, predisposing to the formation of carcinoma—is definitely attributable to tar products. I believe that a case under my observation constitutes a record for rapidity of the development of carcinoma from the local application of tar. I saw a man at St. Mary's Hospital, a barge-builder by trade, who had spurted hot pitch upon his face while coating a boat with it six weeks previously. When he came to me he had two ulcers upon his right cheek in the site where the hot pitch had come into contact with the face, the clinical appearance of which was so like rodent ulcerations that one of my clerks drew my attention to an open textbook upon his knee with a picture of a rodent ulcer extremely similar to the case under examination. Closer investigation of the patient, however, revealed enlarged glands under the maxilla on the side affected. I referred the case to my colleague, Mr. Clayton Greene, who removed the glands with the drastic completeness that characterized that surgeon's work. Recurrence took place within three months in a worse form, and the man died of mediastinal carcinoma within a year of the accident.

Unfortunately epithelioma of the skin shows definite increase in the Factory Report. The inspector points out that early medical examination and treatment are of special importance in this class of case. In a period of three years in Cardiff, among patent-fuel workers with periodic medical examination, of fifty cases none proved fatal; in Swansea, on the other hand, among the same class of workers, where no such examination was made, of twenty-five cases three were fatal.

### Diagnosis

The association of the disorder with the irritant may be very obvious or very difficult to determine. Periodicity of attacks is an important aid in diagnosis. A lady living in a London flat consulted me for a recurrent dermatitis; the discovery after much cross-questioning that the attacks coincided with the reception from time to time of a hamper of cut flowers from a sister living in the country pointed the way to complete cessation of the attacks by the simple expedient of prohibiting the supply of flowers.

Local distribution of the eruptions is again usually distinctive. They begin on the surfaces first exposed to the irritant, or where the irritant is in most prolonged contact. There may be more than one predisposing cause, as in a case I examined for an insurance corporation, in which a stoker of furnaces in a block of flats developed a very curiously distributed dermatitis that dated from the change of fuel to Welsh anthracite. I made the man strip before my consulting room fire and asked him to take up the posture he assumed in stoking. It became immediately apparent that the surfaces most directly exposed to the heat of the furnace were the parts selected for chief implication. My conclusion was that a combination of radiant heat and anthracite dust was the explanation of the particular distribution seen.

If a skin condition gets better when the occupation ceases the probability is that the occupation has a causative share.

Prosser White lays great stress upon the value of what he calls the "patch test" in determining hypersensitivity. A small amount of test material is placed on a clear and apparently healthy area of the skin, and if it

is a dry substance, it is moistened with distilled water and covered with a small square of linen and a square of rubber tissue, which is held in position by a patch of adhesive plaster. This is left in place for approximately twenty-four hours, and the reactions are then noted. A positive reaction consists of redness and the formation of small vesicles at the point of contact. There is an important point to be considered at this time—namely, that occasionally a definite reaction does not appear until twenty-four hours after the patch has been removed, and also that it is sometimes necessary to leave the patch on an additional twenty-four or forty-eight hours before obtaining a positive reaction that otherwise would have been called negative. The "patch test" is probably the most reliable of the direct contact tests, such as the drop, scratch, and intradermal methods. The most important contribution to the subject of the usefulness of the "patch test" is to be found in the *Archives of Dermatology and Syphilology* for March, 1931.

### Prevention in Factories and Workshops

In conclusion, I would summarize the excellent exposition in the current volume of the Factory and Workshops Report of the principles to be observed in preventing industrial skin disorders in factories and workshops.

"First, a barrier should be placed between the skin and industrial irritants by means of a protective film of ointment. According to the demands of the work this ointment may be greasy, non-greasy, or waterproof. Gloves may have to be worn where there is contact with powerful irritants.

"Secondly, after work the skin should be thoroughly washed, but without recourse (except in the case of contamination with oil and where there is much staining of the skin) to cleansers. The preliminary protective film applied to the skin will make this possible. Where a chemical cleanser is necessary for removal of oil, dyes, french polish, etc., the appropriate solution (never in solid form) should be used as weak as makes for effectiveness, and should itself be invariably removed with warm water and a bland (not soft) soap. Nail brushes are intended for cleaning the nails only; much damage can be done by plying these as scrubbing brushes to the skin.

"The value of a regular inspection of workers' hands by a careful observer cannot be over-emphasized. The necessary precautions are then more likely to be observed, and the early signs of skin irritation can be detected and relieved before the resistance of the skin breaks down."

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Jiménez Díaz and two others (*Rev. Españ. de las Enferm. del Aparat. Digest.*, January, 1935, p. 5) believe that phosphatase (that is, phosphorus in organic combination) as found in the blood is derived from various sources, such as bone, liver, kidney, intestine, and muscle. Its percentage in blood plasma estimated by Kay's method averages 0.142 in adults and 0.26 in children. It is high in rickets but fails as the disease is overcome. It may be fifty times higher than the normal figure in Paget's disease, fibrocystic disease, osteomalacia, and during repair of fractures. In osteoporosis the percentage is in proportion to the extent and intensity of the process. In the "degenerate" forms of rheumatism there is an increase not observed in the infectious forms, although in tuberculous joint disease this increase is present. In liver diseases—hepatitis, hepatosis, cirrhosis, and obstructive and catarrhal jaundices—the phosphatase increase is in proportion to the functional state. In the healthy, ingestion of glucose does not affect the percentage, nor is any alteration noted in diabetes, Addison's disease, and the muscular dystrophies; but in hyperthyroidism with osteoporosis it is elevated. The plasma of the pregnant is unaffected until the final weeks, when a rise lasting through the early days of the puerperium is seen.

# CLINICAL INTERPRETATION OF THE ARNETH COUNT

BY

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While it is well established that infections tend to produce a shift to the left in the Arneth count (Arneth,[1] Cooke and Ponder,[2] etc.) we have observed in the course of clinical work that the count sometimes fails to show a shift to the left in acute infections, and that it may show a left-handed shift in the absence of infection. Such exceptions to the rule detract considerably from its clinical utility. Our observations indicate, however, that the apparent failure to conform to expectation is to be associated with the percentage method of recording the count; and by expressing it in absolute figures per c.mm. of blood, errors in its clinical interpretation can generally be avoided.

### Methods

The method employed has been that of Cooke,[2] which consists in classifying 100 polymorphs into five classes, the class numbers corresponding to the numbers of nuclear lobes of the cells in each class. Cooke also determined the average number of nuclear lobes per cell, the result being termed the "weighted mean." In the following observations this figure has been expressed as the total number of lobes per 100 polymorphs, thereby eliminating the fraction. The percentage sign has been employed to indicate the percentage counts, and to differentiate them from the absolute counts. Cooke included any cells with more than five nuclear cells in Class V, but as the presence of such cells is almost always of pathological significance they have been given additional classes when present, and their full value computed in the total lobes per 100 polymorphs.

Cooke's[2] average count for ninety persons of both sexes between 12 and 25 years of age, stated to be healthy, is shown in Table I.

TABLE I.—*Normal Arneth Counts*

| Average Arneth Count per 100 Polymorphs (Cooke[2]) | | | | | Total Lobes per 100 Polymorphs | Total Polymorphs per c.mm. | Arneth Count per c.mm. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Classes I | II | III | IV | V | | | I | II | III | IV | V |
| 10 | 25 | 47 | 16 | 2% | 275% | 3,000 | 300 | 750 | 1,410 | 480 | 60 |
| | | | | | | 5,000 | 500 | 1,250 | 2,350 | 800 | 100 |

Two normal absolute counts are also shown in Table I, calculated from Cooke's normal average percentage count, one based on 3,000 and the other on 5,000 polymorphs per c.mm. To Classes I and II belong the polymorphs occurring normally in the bone marrow,[4] and the sum of these two classes may be employed as an indication of the marrow output of polymorphs, including as it does only cells which have recently passed from the marrow to the peripheral blood. Normally this figure lies between 1,000 and 2,000 per c.mm.

In Cooke's normal counts the numbers of lobes in 100 polymorphs varied from 247 to 311, but we have not met with counts over 290 without being able to find evidence of some disturbing factor. We regard the normal range as 240 to 290, but it will be shown that counts between these two figures do not necessarily represent a normal state of the polymorphs.

### Normal Percentage Arneth Counts in the Presence of Infection

Such counts are shown in Table II. Case 1 was shown, through operation, to have a suppurating salpingitis, but had no pyrexia during nine days in hospital prior to

operation, in which period the count recorded was obtained. The absolute count shows increases in all classes.

TABLE II.—*Normal Percentage Counts in the Presence of Infections*

| Case | Day of Admission | Arneth Count per 100 Polymorphs | Total Lobes per 100 Polymorphs | Total Polymorphs per c.mm. | Arneth Count per cmm. |
|---|---|---|---|---|---|
| 1 | | 6/41/35/15/3 % | 268 % | 8,400 | 504/3444/2940/1260/252 |
| 2 | 7th | 10/37/37/16/0 % | 259 % | 15,600 | 1560/5772/5772/2496/0 |
| | 11th | 26/38/31/2/0 % | 212 % | 8,700 | 2262/3306/2958/174/0 |
| | 16th | 21/45/32/2/0 % | 215 % | 15,200 | 3192/6840/4864/304/0 |

Case 2 had an intermitting pyrexia due to a renal infection. The first count (seventh day of admission) was obtained a few hours after the commencement of a pyrexial attack, the temperature being 102° F. This followed an apyrexial period of at least six days. The count shows no percentage shift to the left, but there are absolute increases in Classes I to IV. Later counts show percentage shifts to the left and absolute increases in Classes I to III.

An explanation of these findings is suggested by Ponder's experimental work in animals.[3] By a single injection of thyroxine in the rabbit he supplied a stimulus to polymorph output and observed the subsequent changes in the Arneth count. In one typical experiment, shown in Table III, there ensued first a shift to the left lasting three days, with a return to the normal by the fifth day,

TABLE III.—*Arneth Count in Rabbit following Thyroxine Injection (Ponder[3])*

| | Arneth Count per 100 Polymorphs | Lobes per 100 Polymorphs |
|---|---|---|
| Normal pre-injection average | 12/31/38/8/8 % | 266 % |
| 1 day after injection | 46/20/20/7/7 % | 209 % |
| 2 days " " | 32/36/22.6/4 % | 214 % |
| 3 " " " | 28/44/18/7/3 % | 213 % |
| 5 " " " | 18/38/26/10/8 % | 252 % |
| 6 " " " | 10/28/40/13/9 % | 283 % |
| 11 " " " | 12/24/36/18/10 % | 290 % |
| 16 " " " | 11/32/34/10/13 % | 282 % |
| 21 " " " | 11/34/37.9/9 % | 271 % |

followed on the sixth by a shift to the right of the pre-injection average, which persisted till the sixteenth day. By the twenty-first day the count had returned to the pre-injection state. These results were ascribed to the increased number of polymorphs first entering Classes I and II, and later passing on to the older classes as they aged. It may be noted that in this experiment the shift to the left existed on not more than four days, while a shift to the right existed on at least eleven days. This shift to the right following the stimulation of polymorph output has received little attention, but it appears to be of clinical importance.

The histories of Cases 1 and 2 indicated that the patients had probably been suffering from their infections for some time, with exacerbations and remissions of activity or of toxic absorption. If one assumes that the increase in polymorph output produced by the observed exacerbation was counterbalanced by an already existing right-handed shift due to a previous stimulus, the resulting normal percentage figures might be accounted for.

As the usual method of expressing the Arneth count gives the cells in each class only in relative percentages, the relative number in any class depends not only upon the actual number in that class, but also upon the numbers in each of the other classes. A change in the number in one class will alter the figures in the other classes, even if the absolute numbers in these classes have remained constant. Thus, in the phenomenon just described the absolute increases in the older classes result in lower relative figures for the younger classes than would otherwise be the case. If both old and young cells are equally and absolutely increased the percentage Arneth count will show no change. There may, therefore, be a failure with the percentage system to demonstrate an actual increase in the younger classes when the stimulus is a recurring one. In the course of routine clinical work this has been found to occur not infrequently.

### Left-handed Arneth Shifts without Evidence of Infection

Shifts to the left in the percentage count occur in the absence of evidence of infection, although infection may be difficult to exclude. Theoretical and practical considerations, however, indicate that the erroneous suggestion of infection here may again be due to the percentage mode of expression. Such shifts can occur in two ways—first by reduced polymorph output without delay in removal, and secondly by earlier removal with or without a normal output.

1. *Reduced Polymorph Output in Agranulocytosis.*—Here the output of polymorphs is reduced, while the normal removal agencies may attempt to maintain the usual rate of removal. As the latter incidence falls most heavily on the older classes owing to their longer exposure in the blood stream, the numbers in the older classes become relatively as well as absolutely reduced, giving a shift to the left. This appears to be the most reasonable explanation of the condition usually found in aplastic conditions without infection, in which absolute counts show that the cells in the first two classes are reduced as well as those in the older classes, the latter being reduced to a greater degree, so that a percentage shift to the left is shown. The functional derangement in such circumstances is a diminished production of polymorphs, and the effect of the normal removal agencies becomes relatively excessive; thus the presence of an infective stimulus is not required to explain the change. Usually a more or less steady state is ultimately reached in chronic cases, when the output and removals are approximately equal, so that it appears that the reduction in the number of cells at risk of removal eventually results in a diminished but earlier removal. An example of the condition, in a case of chronic aplastic anaemia, is shown in Table IV.

TABLE IV.—*Chronic Aplastic Anaemia with Percentage Shift to the Left (Case 3)*

| Date | Arneth Count per 100 Polymorphs | Total Lobes per 100 Polymorphs | Total Polymorphs per c.mm. | Arneth Count per c.mm. |
|---|---|---|---|---|
| 9/11/32 | 32/52/16.0/0 % | 184 % | 800 | 256/416/128/0/0 |
| 29/12/32 | 33/49/16/2/0 % | 187 % | 800 | 264/392/128/16/0 |
| 17/1/33 | 38/42/19/1/0 % | 183 % | 700 | 266/294/133/7/0 |
| 10/3/33 | 60/33/7.0/0 % | 147 % | 1,060 | 636/350/74/0/0 |

No evidence of infection could be found in this case, which showed no pyrexia during three months in hospital, except for a few days after a transfusion. Other cases of aplastic anaemia with agranulocytosis, acute and chronic, showing polymorphs of Classes I and II only, with the total polymorph count below 1,000 per c.mm., have been encountered. One such case is shown in Table V (Case 4), along with, by way of contrast, two inflammatory cases (5 and 6), in which the polymorph removal was so active that only Classes I and II were found in the peripheral blood. Both were cases of ulcerative colitis which ended fatally, and there were probably unusual degrees of polymorph losses in the intestinal discharges.

TABLE V.—*Similar Left-handed Percentage Counts of Dissimilar Causation*

| Case No. | Arneth Count per 100 Polymorphs | Total Lobes per 100 Polymorphs | Total Polymorphs per c.mm. | Arneth Count per c.mm. |
|---|---|---|---|---|
| Aplastic Anaemia with Reduced Polymorph Output | | | | |
| 4 | 64/36/0/0/0 % | 136 % | 100 | 64/36/0/0/0 |
| Ulcerative Colitis with Increased Output and Marked Polymorph Loss | | | | |
| 5 | 94/6/0/0/0 % | 106 % | 6,300 | 5322/378/0/0/0 |
| 6 | 85/15/0/0/0 % | 115 % | 8,900 | 7476/1424/0/0/0 |

Although the percentage counts are similar, the absolute counts show a striking difference. Combinations of agranulocytosis and infection are occasionally met with, and result in markedly left-handed shifts. The condition of a normal output with a shift to the left occurs in some infections, notably undulant fever, counts from three cases of which are given in Table VI.

TABLE VI.—*Percentage Shift to Left but No Increase in Output. Undulant Fever*

| Case No. | Arneth Count per 100 Polymorphs | Total Lobes per 100 Polymorphs | Total Polymorphs per c.mm. | Arneth Count per c.mm. |
|---|---|---|---|---|
| 7 | 49/43/7/1/0 % | 160 % | 1,600 | 784/688/112/16/0 |
| 8 | 55/36/8 1/0 % | 155 % | 1,400 | 770/504/112/14/0 |
| 9 | 49/35 15/1/0 % | 168 % | 1,100 | 539/385/165/11/0 |
| „ | 30/40/26/4/0 % | 204 % | 2,900 | 870/1160/754/116/0 |

This infection frequently fails to increase polymorph output, and even appears to depress it at times (Case 9), although causing an earlier removal from the the circulation, and therefore the usual shift to the left. The count may then resemble that of hypersplenism (discussed below), but such similarity is unlikely to cause difficulties in diagnosis. Such counts are uncommon in infection, and should not be accepted by themselves as proof of its presence. A similar condition appears to have been produced in experimental tuberculosis in the rabbit by Ponder and Flint,[4] although their results may have been due to the onset of aplasia.

2. *Accelerated Polymorph Removal with Normal Output.*—A left-handed shift can also be produced by a removal agency, such as a hyperactive spleen, which does not act by increasing polymorph output like infective stimuli, whatever may be its ultimate causation. The older classes are reduced by earlier removal, giving a left-handed percentage count. An absolute count, however, may show the first two classes to be normal, in which event the percentage count cannot be interpreted as evidence of infection. Such a condition can arise in splenic anaemia and allied conditions, and counts of this type obtained from two such cases are shown in Table VII.

TABLE VII.—*Splenic Anaemia with Left-handed Arneth Shift, but Normal Polymorph Output*

| Case No. | Arneth Count per 100 Polymorphs | Total Lobes per 100 Polymorphs | Total Polymorphs per c.mm. | Arneth Count per c.mm. |
|---|---|---|---|---|
| 10 | 25/38/36/1/0 % | 213 % | 3,000 | 750/1140/1080/30/0 |
| „ | 24/47/26/2/1 % | 209 % | 2,400 | 576/1128/624/48/24 |
| 11 | 30/49/15/6/0 % | 197 % | 2,200 | 660/1078/330/132/0 |

Whether such conditions are of inflammatory origin or otherwise cannot be settled by consideration of the Arneth count, but it may be stated that where there is a normal or reduced polymorph output a percentage shift to the left is not satisfactory evidence of the existence of an infection.

## Discussion

Ponder[5] has discussed the relation of the percentage Arneth count to the total polymorph count in endeavouring to show the nature of the added polymorph population in certain deflected states of the count. Although he has not recorded absolute counts of the individual Arneth classes, in referring to a method of studying the changes experimentally produced in the percentage count he states: "We are inclined to think that it supplies us with so much extra information that polynuclear counts made without simultaneous polymorph counts suffer from a great disadvantage." In clinical work we have found the total counts essential.

## Summary

1. The Arneth count expressed, as it commonly is, by the percentage method only may give rise to diagnostic errors.

2. Percentage shifts to the left may occur in the absence of evidence of infection, and normal percentage counts may occur in the presence of active infection.

3. Absolute counts are essential for the interpretation of the Arneth count, and generally enable errors of interpretation to be avoided, but a normal polymorph output may occur in the presence of infection, notably in undulant fever.

4. In addition to infections, left-handed percentage counts may occur in agranulocytosis and in hypersplenism.

5. Right-handed percentage shifts may occur after inflammatory reactions, as well as in certain other conditions.

6. An absolute increase in polymorph output is necessary for the interpretation of a count as evidence of infection.

7. An absolute increase in output and an absolute reduction in the older classes due to accelerated removal are the best evidences of inflammatory activity, but the latter change is not always present.

I am indebted for clinical data and material to Dr. J. K. Rennie, Dr. A. Hayes Smith, and Mr. F. W. Goyder.

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A. Puigvert Gorro (*Journ. d'Urol.*, May, 1935) describes a case of renal tuberculosis which occurred in a man of 45 years. He had frequency of micturition and pain for about a year, which were followed by haematuria with large clots. A diagnosis of cystitis was made, and injections of silver nitrate were given, and electrocoagulation was carried out for the destruction of vesical ulcers which were present and which were thought to be the cause of the haematuria. There was no improvement, and as the symptome tended to increase in severity cystoscopy was carried out and showed acute cystitis, oedema, and ulceration of the wall of the bladder, which were specially marked at the trigone. The orifice of the left ureter could not be distinguished owing to the oedema and ulceration; the orifice of the right ureter was rounded and enlarged. After the injection of indigo-carmine spurts appeared from the right ureter after five minutes, whilst at the end of nineteen minutes there had been no secretion from the left ureter. As a result of this examination a diagnosis of renal tuberculosis of the left kidney was made. Pyelography was carried out, followed by left nephrectomy, which was very difficult on account of surrounding adhesions. Examination of the left kidney after its removal showed evidence of fibro-cavernous tuberculosis of the closed type with an almost complete absence of kidney substance. The patient died two days later. Post-mortem examination showed that the right kidney was enlarged, and there was extensive cavitation at the upper pole, whilst the lower part of the kidney appeared normal.

# ANAESTHESIA FOR TONSILLECTOMY

BY

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Recent correspondence in the *British Medical Journal* indicates the differences of opinion as to the best anaesthetic for the removal of tonsils, and prompts this consideration of the problem.

## The Ideal Anaesthetic

The requirements of the ideal anaesthetic may be considered from the point of view of the child, his parents, and his doctor, from that of the surgeon, and from that of the nursing staff. The desiderata may be summarized thus:

(*a*) The child should come to the anaesthetic room in a sleepy condition, and be so amnesic as not to recollect the theatre or operation.

(*b*) The anaesthesia should be complete for a short time only, and be so safe as not to cause undue concern to the surgeon or nursing staff following the operation.

(*c*) Owing to the large number of cases to be dealt with at a time ease of administration is essential.

Considering these points in detail there can be no question that children discuss with each other their experiences, and those who have been through the operation delight often in lurid description of the happenings. I have many times been told this by children, and have seen scared little patients covering their mouths up, having in their minds frightful tales of what was going to happen. It is common experience, too, that following tonsillectomy children may change in character to quite a serious extent, becoming nervous, irritable, and waking up at night screaming. I have personally seen a number of such cases; in some these symptoms last a week or two, in others as long as nine months. Nocturnal sedatives have had to be administered for quite long periods. This, surely, is the greatest argument for premedication, with its welcome amnesia, and at the same time the greatest condemnation of such a brutal and unscientific procedure as removing tonsils without anaesthesia. The psychic trauma must make a lasting impression in many cases.

From the standpoint of the surgeon it is desirable that the child shall be quiet, and that the palate and tongue are still, to enable him to carry out perfect inspection followed by easy and exact removal. A few minutes—less than five—suffices for this. Complete relaxation means that the lower pole of the tonsil can be properly removed. The adenoids can be adequately dealt with, and those frequent small hanging tags picked out with appropriate forceps. It is desirable that the cough reflex be regained while the child is still on the table.

Unless unreasonable demands are to be made on the nursing staff, especially where on one day many cases are operated on, the anaesthetic and the drug used for premedication must be fairly easy to administer, and the recovery period not too long or demand too much very close supervision.

## Premedication

The drug used for preliminary amnesia should be easily given and fairly rapid in action, so that the timing of the cases in a list may find each child at the optimum of drowsiness. The "hang over" should not be too long or the respiratory depression too great. The quick return of reflexes has already been mentioned.

I have been at some trouble to elaborate a technique which best fulfils these desiderata, and at the same time allows twelve or more cases to be operated on in two to three hours, with additional exploration of sinuses and dissections in suitable cases. My experience is based on over 4,000 administrations at the Bristol Royal Hospital for Sick Children with children of all ages. In this series there has been no fatal case or a death within twelve hours of operation. Intravenous introduction has not been practised on these children. The drugs used have been paraldehyde, sodium amytal, nembutal, avertin, omnopon, bromides, and chloral.

*Paraldehyde.*—This has been found to be very safe in the dose of 1 drachm per stone of body weight given in 1 in 4 normal saline. The usual dilution 1 in 10, generally accepted for complete solution, has been found to render the volume too great for retention by most children. The child comes to the anaesthetic room drowsy, but with reflexes present, and can be roused. A little ether on an open mask is then given to complete the anaesthesia: less than an ounce is necessary. The cough reflex rapidly returns, but the child continues to be quiet, and sleeps for some hours after operation. The rectum is not washed out as a general rule. No bad result has been seen from a large number of cases. The smell objectionable to others is unnoticed by the patient. The pulse rate during induction sometimes rises a little, and very occasionally slight excitation has been seen. None of these factors can be considered a real objection. Spoken to afterwards none of these children remembered leaving their beds.

*Sodium Amytal.*—While I can claim no vast experience of this drug, it appears to me to be too variable in its effect to compare with paraldehyde. It has been administered by mouth and by rectum in doses of 1, 2, and 3 grains, according to age. The effect has been that a uniform and rather large rise in pulse rate takes place, and for tonsillectomy the cough reflex in some cases has been abolished for too long a time. The "hang-over" is overlong in certain cases.

*Nembutal.*—Administered by mouth this has been found to be too variable for general use. Some cases react well, and in others no effect has been found, given the same age and the same dose.

*Omnopon, Chloral, and Bromides.*—These do not give constant results, and in safe doses do not produce the drowsiness aimed at.

*Avertin.*—This is very comparable with paraldehyde, giving good amnesia, but the dosage demands much more care, as do the patients. A very much closer watch on the state of respiration has to be kept by the anaesthetist and the nursing staff. It is apt to produce in children anaesthesia rather than the pre-anaesthetic state aimed at, but with proper care and experience is safe, but not so safe as paraldehyde. Its preparation takes considerably longer than paraldehyde, and the solution must be carefully tested before being run into the rectum.

## General Anaesthetics

*Ethyl chloride*, without premedication, on an open mask or dropped on to a Denis Browne inhaler, is rapid, certain, and safe. It gives complete relaxation for a few minutes, and allows a rapid recovery in doses up to 5 c.cm. It is very suitable to use for those cases operated on as out-patients. The drawbacks are the short anaesthesia and the struggling child after the operation.

*Ether*, used alone or on open mask, or, better, in a Denis Browne inhaler, is very safe, and recovery is rapid. Induction with the inhaler is rapid. It is, of course, unpleasant to the child, and fills a ward with its odour. I frequently use a little ethyl chloride, followed at once by ether, and this has proved a rapid and most satisfactory anaesthetic. It is not too unpleasant for the child, and recovery of reflexes is quick. Complete anaesthesia for

five or six minutes is easily obtained using very small amounts of anaesthetic. No complications have been seen.

*Nitrous Oxide and Oxygen.*—I have seldom used gas owing to the shortness of the anaesthesia and the fact that the "thyroid position" is used. Induction with a Model G McKesson machine is very easy and pleasant for the child, while a little ether can be superadded. It is, however, not as rapid and certain as other methods described.

### Summary

1. Complete short anaesthesia is desirable for tonsillectomy.
2. Premedication with paraldehyde or other drug is desirable, safe, and satisfactory in every way.
3. The method of choice is premedication with paraldehyde followed by open ether; second to this is ethyl chloride and ether given with a special inhaler.

# Clinical Memoranda

## Treatment of Severe Lingual Leucoplakia

While it is generally held that leucoplakia is not invariably syphilitic, nevertheless, when it is seen, one invariably thinks of that disease. Most people will agree with Stokes that on finding leucoplakia one should look back towards syphilis and forward towards malignancy.

Leucoplakia of the tongue appears to be most frequently found in male syphilitics over the age of 30 who are heavy smokers and who are not very particular as to oral hygiene. It has been generally accepted that syphilitic leucoplakia is of the nature of scar tissue—the scar of a mucous patch, or one resulting from an area of irritation sited upon an immediately subjacent gummatous infiltration. The problem which confronts the physician is that antisyphilitic treatment, however intense and prolonged, appears to have no influence whatever upon the well-developed condition, and that a disquieting proportion of such cases eventually become malignant. Attempts at amelioration by the local application of chemical agents are seldom successful unless they are of a cauterizing character, and here the danger is that they may actually predispose to malignancy. It has therefore been one's endeavour, in addition to treating the syphilis, to deal with the lesion prophylactically so far as carcinoma is concerned, by destroying it with radium. Unfortunately, it has proved extremely difficult to have prophylactic irradiation carried out.

The persistence of leucoplakia in the syphilitic in spite of arsphenamine and bismuth therapy is apt to discourage the patient, with the result that he may cease his treatment; and, as he is suffering from uncured syphilis, the proneness to malignancy increases as the years pass. The following case seems of interest, if only from the point of view that recovery took place with no real attempt having been made to influence the local condition.

The patient is a man who was 32 years of age when he first attended at Salford Municipal Clinic on June 25th, 1932, suffering from leucoplakia of the tongue. He gave no history of syphilis, and there were no other evidences of that disease to be made out on clinical examination. The second aortic sound had, however, a slightly tambour quality. The cerebro-spinal fluid was not examined. The Wassermann, Kahn, and micro-Meinicke tests were all strongly positive (double plus).

In appearance the tongue was practically an exact replica of Plate I of Sir Jonathan Hutchinson's *Syphilis* (second edition, 1909). The white patches were stated to have appeared in 1929, and since then they had spread and covered the tongue as with a thick layer of white paint. There was pain on eating and on taking hot fluids. At night, sleep was seriously interfered with on account of tingling of the organ. The tongue felt stiff and had lost a great deal of its elasticity, causing some interference with articulation. The patient was a very heavy smoker, and obviously paid no attention whatever to oral hygiene.

Antisyphilitic treatment was begun on August 1st, 1932, and is still in progress.

During the first fifty-two weeks the agents used according to the alternating method were stabilarsan and stabismol. The former was given twice weekly, and during the first year 15.75 grams were administered. The total amount of metallic bismuth given in the same period was 2.58 grams. This made no difference, either clinically or serologically.

During the second period of fifty-two weeks the arsphenamines consisted of stabilarsan and novostab, the total given being 12.9 grams. The amount of metallic bismuth in the form of stabismol and iodo-bismuthate of quinine came to 1.73 grams. Again there was not the slightest improvement.

In the next twenty-nine weeks there were given 6.6 grams of stabilarsan and 1.2 grams of bismuth metal in the form of stabismol. The clinical condition remained unaltered, but the Wassermann was now only "single plus." This was on February 25th, 1935.

While this man was attending I had on several occasions demonstrated him to members of my post-graduate classes, emphasizing the intractability of the condition and the danger of future malignancy.

On March 19th, 1935, treatment was recommenced. The patient was given two intravenous injections per week of 3 c.cm. of collosol mercury sulphide. At the same time, "milton" as a mouth-wash was prescribed. (This preparation contains sodium hypochlorite 1.01 per cent., with sodium chloride 16.8 per cent., and small quantities of chlorate, sulphate, and carbonate, and also calcium chloride.)

By April 30th the leucoplakia had practically disappeared, except for a whitish flake or two at the edge and tip of the tongue. The dorsum of that organ now presents a smooth, shiny appearance, the papillae having vanished. Pain and tingling have gone. Hot fluids can be freely taken, and the organ has regained its elasticity almost completely.

What may be the explanation for this remarkable, unexpected, and undesigned result I do not know. I publish the case in the hope that other workers may try the same method. I shall be interested to know with what effect.

E. T. BURKE, D.S.O., M.B.,
Venereal Diseases Officer for City of Salford.

## Complete Return of Sight in an Amblyopic Eye

The following is an interesting case, which has recently come under my observation, of the complete return of sight in an amblyopic eye over the course of ten years.

The patient, a married woman, had suffered all her life from a slight divergent right squint. The sight in that eye was less than 6/60, and there was concentric contraction of the fields of vision. The left eye was normal, with an astigmatic refraction error of minus 0.75; but at the age of 35 the vision failed, owing to optic atrophy. During visits covering a period of ten years to the late Mr. B. Cridland it was found that the sight in the amblyopic eye was gradually returning. In May, 1924, five months after her first visit, the absolute visual acuity of the right eye was 6/36. A year later it had improved to 6/24, and she could read Jaeger 12. In June, 1926, the sight was 6/12, and she could read J2. Five years later the vision was 6/9 partly, and she could read the words of Ji; in 1933 the vision was 6/9 partly, and she could just read J1. Her first visit to me was in March, 1935, when she complained that her eyes ached after reading and that she had temporal pain. Her absolute vision was then 6/6, and she could read J1, but the reading was laboured. She now uses an "easy read" for her smaller print.

This case affords an interesting illustration of the importance of persisting, even over long periods, in the occlusion of amblyopic eyes, particularly at an earlier age, when there is much more possibility of the return of sight.

Wolverhampton. A. WYNN GREEN.

# Reviews

## MEDICINE AND RELIGION

It is not with the evolution of the human head or human hands that Dr. R. R. MARETT is concerned in his latest book,[1] but with the beginnings and growth of that great complex of human nature that is known to ordinary folk as the "human heart." It is at this source he seeks for the origin both of Religion and of Medicine. It is a moot point whether they stand to one another as mother and daughter or whether they should be regarded as sisters—equals in age and in standing. The view taken by Dr. Marett gives religion the preference. "Religion may be hailed," he says, "as the mother both of the sciences and of the fine arts, including literature." Many of us can remember a time when it was quite common to call medical men to fill chairs of science in our universities. While we may be willing to see religion run away with a historical claim to the fine arts and to literature we should resist any attempt to deprive medicine of the motherhood of the sciences.

There is one chapter in Dr. Marett's book which will make a direct appeal to our profession. It is entitled "The Medicine Man," and I propose to cite the opening passage of this chapter to illustrate the originality of his thought and his happy mode of exposition:

> "If the civilized victim of a festal season calls in a well-groomed gentleman with a good bedside manner to prescribe the necessary pill we speak of the doctor and his science. If, however, the sufferer is a savage who, having partaken too freely of a rather tough kangaroo, commissions a personage with wild eyes and a bone through his nose to scare the devil from out of his stomach, we refer less respectfully to the medicine man and his magic. Yet for the anthropologist these are but different stages of one and the same evolutionary process."

Now the points of difference between the primitive physician, portrayed above by Dr. Marett, and the primitive priest whom we meet with in other chapters are hard to find. In the eyes of Dr. Marett's medicine man disease is a miraculous visitation and cure can be obtained only by a miraculous counteraction. The medicine man has to obtain a knowledge of his art not by the study of material means but by seeking diligently in the wilds and alone for spiritual inspiration. His body has to become "the vehicle of a supernatural power or grace." This power has to be exercised through a recognized ritual, and the methods used may be described in general as those of exorcism. The doctor who has been initiated by the spirits "does not think of himself as controlling those spirits. On the contrary, he is not controller but controlled. In dealing with devils his 'verbal formulae' often resemble commands rather than petitions." "It may be questioned," adds Dr. Marett, "whether this is not the proper tone to take with devils."

One point Dr. Marett insists on with warmth: the medicine man is not a humbug: his faith in his means is absolute; his patient's faith in him is equally strong. "From the standpoint of the civilized onlooker, critical and unsympathetic, who cannot participate in this believing attitude, they (the medicine doctors) may seem one and all the dupes of what he ranks as mere superstition" Dr. Marett further adds, "The faith healer who does not have implicit faith in his own power of healing will never produce the like conviction in his patient. No dishonest man ever made *big medicine*." The man who is to understand the beliefs and practices of nature's peoples must have a peculiarly flexible and sensitive form of sympathy. He must be able to view things as Alice did in Wonderland. The Rector of Exeter College has this gift, so had the late Dr. Rivers, and so has Sir Grafton Elliot Smith. I envy them, for I have never been able to attain it. There is some obstinate element in my Aberdonian make-up which refuses to confuse make-believe with actuality. I find it very difficult to take even a native seriously when he addresses a crocodile as his "father," "master," "brother"; yet, possibly, some ancestor of mine worshipped uglier beasts. It is just because of his alert mind and quickened sympathy that Dr. Marett is so excellent a guide to the mind of the savage. In one little point our author remains perhaps a little too credulous. He evidently accepts the doctrine of maternal impressions. To use his own words: "While as a matter of scientific fact it is not impossible that the mental impressions of the mother may, in certain circumstances, be reflected in her offspring as folk-belief has always held" (p. 215), I have failed to find satisfactory evidence in support of such transmission.

ARTHUR KEITH.

[1] *Head, Heart and Hands in Human Evolution.* By R. R. Marett, M.A., D.Sc. London: Hutchinson's Scientific Books. 1935. (Pp. 303. 10s. 6d. net.)

## MEDICAL BIOCHEMISTRY

The second edition of CAMERON and GILMOUR'S *Biochemistry of Medicine*[2] has quickly followed on the first, which appeared but two years ago. In spite of this it is welcome, for it is an excellent book. Nearly all the aspects of biochemistry which are of medical interest have received brief but clear and workmanlike treatment: the only conspicuous omission to be found is in the realm of immunology. The work on the specific carbohydrates of bacteria is perhaps the most fascinating and stimulating chapter in modern biochemistry, certainly in modern pathology. Clear summaries have already been published elsewhere, and a brief chapter surely might have been included in the new edition, even, if necessary, at the cost of shortening some other parts of the book. Except for this omission we have nothing but praise for the volume as a whole.

We cannot, however, agree entirely with the authors' assessment of the relation of the biochemist to the clinician (p. 24), at any rate if this is meant to define (as most readers will assume that it does) the relation of biochemistry to clinical medicine. Biochemistry, for most biochemists, is not, as the authors state, a specialized branch of chemistry, but a special approach to biology. The name "biochemistry" has largely displaced "physiological chemistry" because the chemical avenue is now used for attacking not merely the problems of physiology, but those of other branches of biology as well. In a growing number of the problems of clinical medicine there are grounds for believing that advance can be made only upon biochemical lines, and biochemistry constantly throws fresh light upon the medical knowledge which we already possess. Biochemistry, in fact, has become an integral part of medical thought and of medical education. To speak, therefore, as if the biochemist of the larger kind were a mere subordinate of the clinician is, in our view, to make a grave mistake. The clinician of the future must incorporate biochemical thought into his mental equipment, though most general clinicians will presumably not attempt the more elaborate forms of biochemical manipulations, for the same reason that they do without a large *x*-ray plant or an electrocardiograph.

At Cambridge biochemistry is now a separate half-subject in the Natural Sciences Tripos, and the medical

[2] *The Biochemistry of Medicine.* By A. T. Cameron, M.A., D.Sc., F.R.S.C., and C. R. Gilmour, M.D., C.M., F.R.C.P.(C.). Second edition. London: J. and A. Churchill Ltd. 1935. (Pp. 518; 31 figures. 21s. net.)

student may, if he wishes, offer it as part of his tripos work. The physiology course contains, in any case, a considerable amount of biochemistry, but in the separate biochemistry course the subject is dealt with along broader lines and in a more thorough manner. The course is not intended to be solely for students of medicine, but the large numbers of medical students attending it suggest that the opportunities it offers are being appreciated. The attitude which has led to this new departure at Cambridge is very different from that expressed by the authors of the book under review.

## STOECKEL'S GYNAECOLOGY

Gynaecological knowledge made such rapid progress after the publication of STOECKEL'S third edition that in eighteen months, we are told, instead of a reprint, a new edition[3] had to be provided. Corrections were needed on almost every page. The newest possible knowledge, especially in the treatment of ovarian disorders, has been incorporated. The result is a particularly attractive and valuable treatise on gynaecology.

There is something about Stoeckel's style which gives the reader confidence. Perhaps it is the interspersion of homely adjurations in large print (such as "Never forget to test the urine for sugar" in discussing pruritus), following upon detailed and scientific discussions of aetiology and pathology, with painstaking directions as to treatment. There is a humaneness, too, in spite of the erudition—for instance, in dealing with vaginismus. The clarity of description is masterly, and the illustrations are well done. Many of the pictures are very successfully coloured, and there is a beautiful drawing of hands demonstrating the insertion of a Hodge pessary. The use of varying sizes of type to denote the contents of a paragraph makes for ready reference. Ideals are kept in sight, as when the destructiveness of our present treatment of carcinoma is deplored. Indications for operations are stated, and a technique is suggested. *X*-ray and radium therapy occupy a whole section. In his own clinic Stoeckel uses rather small doses of radium, but he lays stress on the importance of adapting dosage and method to the individual case. Genito-urinary conditions find their place in a singularly comprehensive work. We wonder a little at the retention of the word "esthiomène," but it is useful in covering a group of lesions of uncertain origin; and we sympathize with the German gynaecologist's despair over feminine fashions.

This is a good textbook for the general practitioner and a valuable reference book for the gynaecological specialist.

## CARDIAC INFARCTION

The essence of Dr. COELHO'S monograph[4] is a study of twenty-eight cases of cardiac infarction. The central point of these observations consists in a correlation of the cardiographic records with the clinical features. There follows a discussion of aetiological and diagnostic points. Arteriosclerosis is accorded a dominant role in the evolution of infarction, while the views expressed on the relative unimportance of syphilis and the significance of diabetes are in accord with modern opinion. Gallavardin is quoted as considering pain to form only a subsidiary part of the clinical picture of infarction; in the present series it is regarded as the central feature of the malady. The frequency of gallop rhythm is remarked upon, and it is surprising that there was in no case a leucocytosis exceeding 10,400. It is held that localization of a cardiac infarct is often difficult or impossible, and that it may only be determined on a conjunction of clinical and cardiographic evidence. The view of Barnes and Whitten is endorsed—namely, that a T3 type of curve represents a lesion on the posterior aspect of the heart (usually the left ventricle), and that the T1 type of electrocardiogram corresponds to an infarction involving the apex or the anterior aspect of the left ventricle. Septal infarcts will produce special effects upon rhythm through interference with nodal, bundle, or bundle-branch structures.

As far as it goes this monograph follows sound lines. The value of the work might have been greatly enhanced had the clinical material been inclusive rather than selective. The twenty-eight cases have been chosen from a considerable number, on the grounds that they are illustrative and typical. Such a device impairs the value of the work in so far as the cases are primarily assessed in accordance with preformed standards. Moreover, it is commonly the study of atypical and ill-understood cases that ultimately sheds new light on morbid processes and the significance of clinical features. The first half of the volume contains an orthodox statement of modern knowledge concerning the arterial supply of the heart, the results of experimental occlusion, and the pathology of cardiac infarction. This monograph, though interesting to the cardiologist, is of limited scope and undistinguished by new facts or new conceptions.

## FAULTY POSTURE AND DISEASE

Dedicated to the chronic patient, *Body Mechanics*,[5] by Dr. JOEL GOLDTHWAIT and his three collaborators, is a contribution to the study of faulty posture in relation to the cause and cure of chronic disease. Acute diseases and surgical emergencies make the greatest claim on the student's attention while at hospital, and consideration of the chronic patient has little place in his mind. In general practice the position is reversed, for the majority of patients are of the chronic type, and the practitioner finds himself lacking in knowledge of how to treat them; and, accustomed to quick results, he may lose interest when progress is slow or imperceptible. Realizing this, and believing that much can be done to improve the lot of the chronic patient, the authors of this book have endeavoured to present the treatment of chronic ill-health in a more hopeful light. Although treatment cannot always be directed against the cause of the disease, they show how improvement and relief of symptoms can be achieved by correction of bad body mechanics. In their own practice they have obtained such good results that they sometimes give the impression of regarding the faulty body mechanics as the primary cause of disease, rather than an inevitable sequel to the physical and mental depression of the initial stages of the original disease.

The first part of the book deals with general considerations of body mechanics. Having discussed anatomical factors in the maintenance of correct posture in the so-called "normal," "slender," and "stocky" types, the authors describe the changes in structure, position, and function which occur in the bodily organs when the normal posture is departed from for any length of time. They discuss the influence of posture in relation to different diseases, and prescribe the physical treatment of most value in particular cases. In some of these the physical condition of the patients was extremely poor and improvement seemed impossible, and yet it occurred as a result of infinite patience and perseverance in the application of

[3] *Lehrbuch der Gynäkologie.* By Professor Dr. W. Stoeckel. Fourth edition. Leipzig: S. Hirzel. (Pp. 748; 462 figures, 65 plates. M. 33; geb., M. 35.70.)

[4] *L'Infarctus du Myocarde.* By Eduardo Coelho. Paris: Masson et Cie. 1934. (Pp. 212; 103 figures. 35 fr.)

[5] *Body Mechanics in the Study and Treatment of Disease.* By Joel E. Goldthwait, M.D., LL.D., Lloyd T. Brown, M.D., Loring T. Swain, M.D., and John G. Kuhns, M.D. Philadelphia and London: J. B. Lippincott Company. 1935. (Pp. 281; 99 figures. 18s. net.)

the author's principles. Happily for many of these patients hospital beds were available for prolonged treatment by muscle re-education, the body being supported by a moulded leather jacket or plaster support when these were indicated. The reader may question the diagnosis in the accounts of some of the cures obtained—for example, in the case of progressive muscular atrophy on page 203, and in the case of diabetes mellitus reported on page 225. Although the influence of faulty posture on glycosuria has been reported previously by other workers, the remarks in this book concerning it are weakened in value because the distinction between true diabetes and transient glycosuria is not drawn with accuracy.

The book is written in a simple popular style. Perusal of it will certainly help towards a more hopeful prognosis in treating chronic ill-health, and may do something to infuse the depressed practitioner with the author's enthusiasm in the cause of the "chronic" patient.

## Notes on Books

We welcome the appearance of the twenty-second edition of Hale-White's *Materia Medica*,[6] which for some years past has been edited by Dr. A. H. DOUTHWAITE. The general arrangement and scope of the textbook remain as before, but a selection of new drugs has been introduced—for example, atebrin, coramine, evipan, acetylcholine, etc. Moreover, the nomenclature and descriptions of a large group of non-official drugs and preparations have been corrected in accordance with the 1934 edition of the *B.P.C.* This textbook has enjoyed a wide popularity for forty-three years, and its characteristics and general merits are too well known to need special description.

*Scientific Dieting*,[7] a booklet of twenty-eight pages compiled by Dr. VIOLET E. HASTINGS, is intended for the lay public, but practitioners of medicine will find it worth their while to read it. It contains facts about food which everyone should know. It shows how adequate diets for children and adults and for the expectant and nursing mother may be constructed, even by those whose income is small. It is an elaboration of the report of the British Medical Association's Committee on Nutrition, fortified with apt quotations from the writings of well-known authorities. A list of nine diets, similar to those of the Committee on Nutrition, is given. These provide approximately the same amounts of proteins, fats, carbohydrates, and calories as those of the committee. There is, however, greater variety in their ingredients, while their contents of calcium, phosphorus, and iron are also given. It is rightly emphasized that "a diet cannot be considered to be safe unless the calcium, phosphorus, and iron have been estimated." We commend the booklet to our readers.

The book entitled *Queer People*,[8] by Dr. HAROLD DEARDEN, contains short and lively sketches of eighteen more or less eccentric or criminal persons from the seventeenth century down to the present day. The best-known figures in this disreputable gallery are those of Jean Jacques Rousseau, Madame de Brinvilliers, Casanova, the Chevalier D'Eon, Gilles de Rais, Beau Brummell, and the Titchborne claimant, while the rest are most extraordinarily squalid and repulsive persons, who need all Dr. Dearden's skill to make them entertaining if not edifying.

The second volume of Messrs. Hutchinson's *Technical and Scientific Encyclopaedia*,[9] ranging from "Direction of Rotation" to "Hydrogen-ion Concentration," has rapidly followed the appearance of the first. The work, which claims to traverse the whole field of physics, geophysics, geology, and chemistry in their application to industry, contains many items likely to be of value to those interested in the composition and use of drugs, and includes structural formulae of various substances a knowledge of which is essential to the study of biochemistry. Thus the glycosides (six pages) and the hormones (four pages) receive liberal treatment; though in the latter item "Zondek-Aschheim" might be correctly spelt when producing a new edition. Attention might also be given to the more uniform use of the terminal "ine" in the nomenclature of basic substances. These slight blemishes apart, the work is well produced, the type being clear and the illustrations adequate for their purpose. When complete the volumes will be a useful addition to the technical library.

[6] London: J. and A. Churchill Ltd. 1935. (Pp. 552. 10s. 6d.)
[7] Obtainable from H. K. Lewis and Co., Ltd., 136, Gower Street, London, W.C.1 (1s. net).

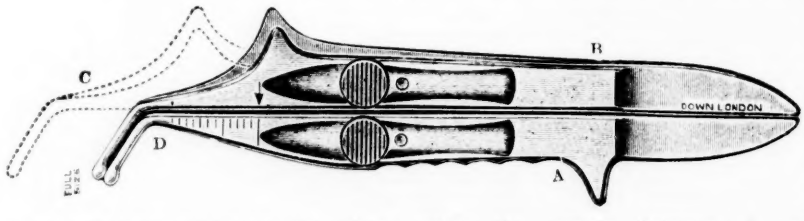
[8] *Queer People*. By Dr. Harold Dearden. London: Hutchinson and Co. Ltd. 1935. (Pp. 255. 16 Illustrations. 15s.)
[9] *Technical and Scientific Encyclopaedia*. Edited by C. F. Tweney and L. F. Shirshov. Vol. II. London: Hutchinson and Co. Ltd. 1935. (28s. the three vols.)

## Preparations and Appliances

### TWIN FORCEPS FOR SQUINT OPERATIONS

Dr. A. WYNN GREEN (Wolverhampton) writes:

Twin forceps to be used in the resection or resection-advancement operation on the internal rectus in order to avoid the employment of callipers and rulers have been made for me by Down Bros., Ltd. These forceps are really two Prince's forceps united in such a way that one slides on the other and is readily detachable.




The forceps have a ten-millimetre scale (D in the figure), by which can be made an exact measurement of the length of muscle to be removed. They are applied in the manner of ordinary Prince's forceps, both forceps being clipped to the muscle. Forceps B is then opened, and moved down the scale (see position C). The muscle is now secured between the jaws of forceps B: when the muscle between A and B has been cut away, forceps A is removed and the operation completed in the usual way.

### A GLARE SHIELD FOR SPECTACLES

Theodore Hamblin Ltd., dispensing opticians, 15, Wigmore Street, W.1, have sent a sample of a new device for attaching to spectacles for the prevention of glare. It is called the "klippon" glare shield, and it can be adjusted in a moment to protect the eyes from strong sunlight. The price is 1s. 6d. each.

### THEOTONE TABLETS

Theotone tablets (Allen and Hanburys Ltd.) contain theobromine (5 grains) and phenobarbitone (1/2 grain). Combinations of this type of a purine derivative and a barbiturate have been found efficacious in the treatment of various cardiovascular derangements such as high blood pressure and angina pectoris.

## FOREIGN DOCTORS IN FRANCE

[FROM A CORRESPONDENT]

Some public interest has been aroused by "a threat to ban foreign doctors from France," as the daily papers have expressed it. In fact, what has happened is that the Chamber of Deputies and the Senate have passed a modification of the 1933 law, which put foreign doctors and dentists under certain restrictions if they wished to practise in France. The limitations proved inadequate from the French point of view, as more and more students continue to register at the medical schools. In 1933 medical and dental practice was limited to those who had obtained the State diploma and to French subjects. The only exception was that a certain number of foreign practitioners might be admitted by special diplomatic decree, provided that there was reciprocity with their country of origin and a similar number of French doctors were practising there. Before starting to work for the State diploma a candidate had to produce evidence of instruction in physics, chemistry, and biology, and could get no relief from examinations, whatever degrees he held from elsewhere. He could, however, get three years off his student period if he had a qualifying diploma, and four years if he had a French university degree. Students could not be excused any part of the necessary period of study, however much they had done in other countries. No public position could be held by a foreigner until he had been naturalized for five years, unless he had served as a volunteer in the Army during the war.

### THE 1935 ENACTMENT

The new enactment substantially repeats these conditions, but lays down special terms to distinguish those who have completed their military service and those who have not. Any naturalized foreigner provided with his State diploma in medicine or dentistry can start to practise his profession immediately if he has served the period demanded by the conscription laws or as a volunteer on active service since 1914. If he has not done either of these forms of military service he may not practise until a period of time has elapsed equivalent to the period of service which he has not performed. This, of course, means two years if he has not done any, being exempt on grounds of health. The period begins from the date of acquiring the diploma. Naturalized French subjects are not required to serve in the conscript forces after the age of 30 if they are bachelors, 28 if they have a child, or 27 if they have two children. It is thus common for the foreigner to delay his naturalization until he is 30 or nearly 30; he thus escapes military service altogether. To penalize those who adopt this method of escaping their obligation to the French State, the new law makes them wait for twice the period of military service before they may practise, if their excuse from service is on this ground of age alone. During the probationary period they may earn their living and keep themselves up to date by taking locumtenent posts. The same period of five years is laid down for those who wish to obtain public appointments. This runs from the completion of any other probationary period, so that a doctor who has obtained exemption from military service on the ground of age at the time of naturalization must wait nine years after he obtains his diploma before he can accept any public appointment in France. This corresponds with the period of ten years which is exacted from foreign members of the legal profession. The precise definition of a public appointment has been left for subsequent decree by regulation. It is not to include free service to the poor, or vaccination, and should there be only one specialist in a country district he would not be prevented from giving his services because he was a foreigner.

### THE NEW LAW NOT RETROSPECTIVE

The new law is not in any way retrospective, and those who already have public appointments can continue to hold them. Those who have already obtained permission to practise can continue to practise privately, but must wait five years for a public appointment. The only exceptions to the rigid rule are students who have married French women retaining their nationality; it was felt that the fathers of French children should not be restrained too rigidly from practising their profession in France. These students must, of course, also become naturalized Frenchmen.

The debate in the Senate on this proposed change in the law revealed very considerable interest in the number of foreigners practising in France. During 1934–5 there were 3,320 French and 1,530 foreign students registered, and it is anticipated that two-thirds of those foreign students will practise in France. The medical schools will continue to give the warmest possible welcome to foreign students who go there to learn French ways and return to their own countries to practise. France has no desire whatever to keep the foreigner outside her gates, but she does desire to protect her own nationals from an invasion of practitioners from other lands.

## THE CANCER CAMPAIGN

In the absence of Lord Reading, Sir Holburt Waring, President of the Royal College of Surgeons, presided at the fifty-fifth quarterly meeting of the Grand Council of the British Empire Cancer Campaign, held at 12, Grosvenor Crescent, S.W., on July 8th.

The following grants were approved: £655 to Dr. Alan Greenwood of Edinburgh, for the breeding of disease-free brown leghorn fowls; £500 to Mr. F. C. Pybus of Newcastle, through the North of England Council of the Campaign, for salaries of assistants and laboratory expenses for one year; and £150 for the purchase of apparatus for Dr. Lumsden, working at the London Hospital. The Finance Committee and Grand Council also authorized the renewal of the appointment of two assistants to Dr. Lumsden, at £500 and £450 per annum.

### CO-ORDINATION OF CLINICAL RESEARCH

Lord Horder, chairman of the Scientific Advisory Committee, submitted a scheme for the co-ordination of clinical cancer research which had been occupying the attention of the committees of the Campaign for some time. He said that the scheme, which envisages an organization for co-ordinating on a scientific basis clinical cancer research, had now received the unanimous support of the teaching hospitals in London, the medical committee of the London County Council, as well as a number of specialized hospitals in the metropolitan area. Grand Council expressed its complete approval of the scheme, and gave authority for carrying into effect the proposals made. A general committee is to be formed for this purpose, consisting of the nominees of all the co-ordinating institutions, together with the following representatives of the Campaign: Lord Horder, Dr. R. G. Canti, Sir Charles Gordon-Watson, Mr. J. P. Lockhart-Mummery, Mr. Cecil Rowntree, Mr. Eric L. Pearce Gould, and Mr. W. H. Ogilvie. It was agreed that the scheme should be carried out in the London area in the first instance, but it was hoped that it would be extended to all parts of the country and to the Empire in due course, as a result of the experience gained.

Mr. Cecil Rowntree, one of the two British representatives and a vice-president of the Union Internationale Contre le Cancer, reported to Grand Council that a General Assembly was held on May 4th in Paris, which was attended by forty-three delegates, representing thirty-four countries, and that the International Committee had made preliminary arrangements for the convening of an international conference on cancer, to be held in Brussels in September, 1936. He stated that many of the leading cancer research workers had already intimated their intention of attending the conference.

The annual general meeting of the British Empire Cancer Campaign will be held on Monday, November 25th.

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# TREATMENT OF THE MALADJUSTED

In our issue of July 13th we printed a valuable contribution by Dr. Mary C. Luff and Dr. Marjorie Garrod on the after-results of psychotherapy in 500 adults who have been treated at the Institute of Medical Psychology. In view of the increasing interest taken in psychological treatment—*pace* Mr. C. E. M. Joad—it is most desirable that statistical data should be compiled which will reveal both the possibilities and the limitations of the various methods of approach that are now being applied to maladjusted patients. In recent years workers of the psycho-analytic school have tabulated the results obtained in a number of cases treated according to the methods elaborated by Freud and his followers. Especially interesting in this connexion was a contribution by the late Dr. Leo Kessel and Dr. H. T. Hyman in the *Journal of the American Medical Association* on the value of psycho-analysis as a therapeutic procedure.[1] This was a purely objective and unbiased study, and many of the thirty-three patients chosen for analysis were clearly unlikely to benefit by the treatment. The more severe mental illnesses such as the psychoses and drug addictions in which the need for help is greatest have least expectation of improvement: it is possible and even probable that the less severe varieties of mental illness are amenable to methods less complex and less expensive than complete analysis. It is quite obvious that if the majority of psychoneurotics require a very prolonged and expensive treatment in order to achieve a state of tranquillity, happiness, and efficiency, a very small proportion of these sufferers will be able to avail themselves of treatment. It is thus very satisfactory to learn that most of the patients treated at the Institute of Medical Psychology respond to relatively short measures—such as re-education with explanation of symptoms—though deep analysis is undertaken if necessary, and either suggestion or hypnosis is employed when appropriate.

As regards the results of treatment these would seem on the whole to be good. The value of the study consists essentially in the fact that the results of treatment are gauged by the mental health of the patients three years after they have ceased to attend the Institute. So many psychoneurotics tend to lean on the doctor and are only able to achieve a state of efficiency when they are "wound up" at frequent intervals by means of therapeutic conversations. Those who have studied the works of Pierre Janet will probably remember his admirable descriptions of such cases. The clinical descriptions of this distinguished observer were almost unparalleled, but deeper insight into the psychopathology was lacking. The fact that many patients treated at the Institute had not felt the need for further treatment for three years after they had recovered from their neurosis would appear to show that an increased insight into the psychopathology of the psychoneuroses has made it possible to effect more permanent recoveries than those achieved some years ago. Though the teaching of Freud was percolating in some measure in this country before the great war, it was the experience gained during this period with soldiers suffering from "shell-shock" that stimulated among members of the medical profession a rapidly increasing interest in the psychoneuroses.

In recent years the number of psychological clinics has multiplied in all civilized countries, and it is permissible to assume that this growth is due in no small measure to the increasing changes and uncertainties of modern life. Curiously enough, however, it would seem that in industry the protection of the State for workers who have sustained injuries has the effect of stimulating neuroses in a considerable number of cases. Drs. Luff and Garrod refer—as does Professor Millais Culpin in his paper in this week's issue of the *Journal*—to the recently published survey by Dr. J. L. Halliday,[2] who estimates that roughly one-third of the patients referred to him on account of prolonged incapacity were in reality suffering from some form of psychoneurosis. In this connexion it is interesting to note that Sir Henry Newland a few years ago said that both in war and in civil cases a wound or injury—the organic factor, however slight it might be—"acts as a bait for the hysterical symptoms, which settle in the region of the trauma and which usually survive the exciting cause." He also made the interesting observation that those who are absorbed in their calling rarely develop functional nervous disorders. The instance of jockeys is cited—a class which in proportion to its numbers is probably more subject to trauma than persons in any other occupation; and yet Newland has never seen an injured jockey develop a functional neurosis.

Though psychotherapy has been instrumental in relieving the discomforts of many psychoneurotics, there are many mental illnesses that respond but little to psychotherapy: this is especially evident in respect of drug and alcohol addiction, though the methods of withdrawal have greatly improved in recent years. The occupational neuroses, such as writer's cramp, are also resistive to treatment. Of late years leading authorities in the psycho-analytic school have drawn attention to the limitations of psychotherapy. As might be anticipated, a knowledge of psychopathology does not necessarily enable the analyst to achieve a recovery. The neurologist and the general physician are obviously often in a similar position. In the statistics of Luff and Garrod there are considerable numbers who failed to be completely cured. This, of course, is only to be expected. It is always necessary to bear in mind the doctrine of psychosomatic unity so admirably formulated by the late Dr. Hans Prinzhorn, and it is much to be desired that we should admit that the limits of psychotherapy are narrow, owing to the unalterable

[1] See *British Medical Journal*, 1933, ii, 1175.

[2] *Supplement, British Medical Journal*, 1935, i, 85, 99.

character basis which is the chief factor in every neurosis. Thus the problem of individual "substance," inheritance, constitution, must be a matter of consideration in every case. There are psychopaths who, in spite of all attempts to help them, remain practically as far from the idea of general health as they were at the start. Dr. Prinzhorn maintained that these are, above all, the sufferers from those neurotic disturbances the treatment of which is the task of the psychotherapeutist. In the case of psychopaths there can never be any talk of "health" in the biological sense—as "the free equilibrium of all the functions proper to the species"—but only in the sense of social adaptation or of personal optimum.

## "PORADENITIS VENEREA"

Among those who have heard of "climatic bubo" and "lymphogranuloma inguinale," terms which refer to the same disease in different geographical situations, there are probably few in this country who have followed the steps in its elucidation which have been taken within the past few years, although the subject is a familiar one in France and other European countries, as well as in the Tropics and the United States. Those interested either in the earlier history of the disease or in its more recent study will find a complete survey in the monograph by Dr. H. S. Stannus (*A Sixth Venereal Disease*, London, 1933), a remarkable compilation based on nearly a thousand original papers, the classification and interpretation of which can have been no easy task, since the earlier literature is beset with every sort of confusion. The history of this disease illustrates the futility of describing a lesion merely in terms of its appearance and behaviour, and the necessity, for the purposes of recognition, study, and nomenclature, as well as of treatment, of basing identity solely on aetiology. Included in the manifestations of this disease are four conditions formerly regarded as distinct, which have been known under fully forty different names, and attributed frequently to tuberculosis, syphilis, gonorrhoea, and malaria, with none of which have they anything to do.

The now fully ascertained facts about the disease may be briefly summarized. Infection takes place during sexual intercourse, and its principal reservoirs are native prostitutes in the Tropics, although temperate regions are by no means free from the infection. The primary lesion is a transient vesicle, and the first unmistakable indication of the disease is an inguinal bubo, representing glands in which prolonged suppuration occurs. The multiple foci of suppuration which are characteristic of this lesion led Fiessinger to suggest the term "poradenitis," a name the adoption of which is favoured by Stannus as accurately descriptive and avoiding the misconceptions inherent in other available terms. In the female the position of the affected glands depends upon the site of the primary lesion. Should this be on the anterior part of the vulva an inguinal bubo results, as in the male; but if the portal of entry is on the fourchette or in the vagina, the glands affected are those in the pelvis. Wider dissemination of the disease is unusual, but important sequels may result from it in these situations. The disorganization of lymphatic glands, together sometimes with the effects of surgical extirpation, may produce lymphatic obstruction, and a hypertrophic condition of the genital organs follows which has been referred to as "elephantiasis" in both sexes and as "esthiomène" in the female. Pelvic adenitis and periadenitis in the female quite commonly cause stricture of the rectum, an important and dangerous consequence confined to that sex. All these lesions have been attributed in the past to every sort of cause other than the true one, and even quite recent writings remain oblivious to some of the facts now ascertained. Stannus quotes with withering contempt an almost meaningless statement on the aetiology of rectal stricture in a book published only a year earlier than his own, which was evidently written in complete ignorance of the fact that a distinct type of inflammatory stricture of the rectum is commonly and demonstrably due to this disease, and probably rarely to any other. These assertions, and the confident attribution of a variety of morbid conditions in and about the pelvis and genital organs to a single cause, have been made possible by the discovery of the microbic agent of poradenitis venerea, and by the application of the Frei test in diagnosis. It was first demonstrated by Hellerström and Wassen that pus from affected glands, which had previously nonplussed investigators by its freedom from recognizable bacteria, contained a virus transmissible to monkeys. Subsequent work by these investigators, and by Levaditi and others, showed that the virus was filterable, and extended the scope of animal transmission by improved methods to guinea-pigs and mice. The Frei test consists in the intracutaneous injection of diluted pus sterilized by moderate heat; this causes an inflammatory reaction in the affected individual. Either by this test or by transmission of the disease itself from affected tissues to animals the true nature of the later manifestations described has now been amply demonstrated.

These discoveries prompt several reflections and questions. To those seeking the cause of any chronic disease in the shape of a filterable virus it may be encouraging that an infection of this nature, so different in its manifestations and in its chronicity from most virus diseases, can now be confidently placed in this category. The geographical distribution of the disease is puzzling; it unquestionably favours hot climates, and temperature is only credited as a rule with influencing diseases transmitted indirectly. On the other hand, it not only exists in Europe, but, according to a series of recent reports,[1] it has a strangely erratic distribution. In France it is clearly common; Rumania, Sweden, and Germany report considerable numbers of cases, but Norway and Holland very few. In this country, except for (and in spite of) infected

[1] *Bull. Mens. de l'Office Internat. d'Hyg. Publique*, 1935, xxvii, 485.

sailors returning from foreign ports, it seems to be almost unknown. Stannus observed one case in London, and MacCormac[2] has just reported three others, one of whom was infected in Paris ; the other two are ascribed tentatively to "the invasion of the neighbourhood of the Middlesex Hospital by a colony of Cypriots." The purpose of reviewing these discoveries is chiefly to draw attention in England to the existence of the disease, in order that cases, if they do occur, may be recognized for what they are. Even if the prostitutes of this country have been so fortunate as entirely to escape infection, with the result that primary lesions of indigenous origin cannot arise, it is almost incredible that the sequels should be as rare in England as the emptiness of our literature suggests. Hypertrophic and ulcerative conditions of the vulva and strictures of the rectum in females, as well as suppurative inguinal adenitis in either sex, should arouse suspicion and be subjected to full investigation. Meanwhile, foreign literature contains frequent reports relating to poradenitis venerea. Although none is of outstanding importance, the following may be mentioned. Levaditi, Mollaret, and Reinié[3] report cases of the genito-ano-rectal syndrome in which the presence of the virus was demonstrated not only by animal transmission, but by experimental human inoculation (in general paralytics). Mocquot, Levaditi, and Reinié[4] report another case of rectal stricture. Phylactos[5] describes transmission of the virus to rabbits ; Miyagawa *et al.*[6] claim to have demonstrated virus particles by Giemsa staining in infected tissues, and figure them convincingly ; Wien, Perlstein, and Neiman[7] report the post-mortem findings in three fatal cases ; Reiss[8] claims to have devised an improvement of the Frei test, and Tamura[9] to have cultivated the virus in an artificial medium. Since this is by no means an exhaustive list of papers published within the past few months, it may be gathered that the disease is exciting considerable interest in those parts of the world where its occurrence is recognized.

## INTERNATIONAL NEUROLOGICAL CONGRESS

We would remind our readers again that from July 29th to August 2nd the second International Neurological Congress will be held in London, under the presidency of Dr. Gordon Holmes, F.R.S. The various sessions of the congress will be held in the large hall of University College, Gower Street, and in lecture rooms of the College. The set subjects for discussion are: (1) the epilepsies, their aetiology, pathogenesis, and treatment ; (2) the physiology and pathology of the cerebro-spinal fluid ; (3) the functions of the frontal lobe ; (4) the hypothalamus and the central representation of the autonomic system. The following distinguished foreign representatives have consented to occupy the chair at these discussions: Professor O. Marburg (Austria) ; Professor O. Rossi (Italy) ; Professor O. Foerster (Germany) ; Professor H. Claude (France) ; Professor B. Brouwer (Holland). In addition, some 250 communications of a miscellaneous kind dealing with various aspects of neurology will be presented during the congress. The Hughlings Jackson Memorial Lecture will be delivered by Professor O. Foerster of Breslau in the House of the British Medical Association on July 31st at 9 p.m. Receptions will be held by the Ministry of Health at Lancaster House ; by the Presidents and Fellows of the Royal Colleges of Physicians and Surgeons ; and by the Royal Society of Medicine. Information as to membership may be obtained from the secretary-general, Dr. Kinnier Wilson (14, Harley Street). The Council of the British Medical Association extends a cordial invitation to all members attending the congress to regard themselves as members of the B.M.A. for the duration of the meeting, and hopes that those wishing to do so will avail themselves of the Library and Common Room facilities at Tavistock Square.

[2] *Proc. Roy. Soc. Med.*, 1935, xxviii, 803.
[3] *Bull. de l'Acad. de Méd.*, 1935, cxiii, 439.
[4] Ibid., 1935, cxiii, 320.
[5] *Presse Méd.*, 1935, xliii, 493.
[6] *Japanese Journ. Exper. Med.*, 1935, xiii, 1.
[7] *Archiv. Path.*, 1935, xix, 331.
[8] *Arch. Derm. and Syph.*, 1935, xxxi, 215.
[9] *Journ. Lab. and Clin. Med.*, 1935, xx, 393.

## THE HUNTERIAN MUSEUM

The ever-expanding scientific activities of the Royal College of Surgeons of England are shown in detail in the annual report of the Conservator and Director of Research, which has just been issued. With the appointment of an assistant conservator—Dr. A. J. E. Cave—and a pathological curator—Dr. L. W. Proger—the Museum staff is now complete. Mr. T. W. P. Lawrence, after eleven years of devoted service as acting pathological curator, retired, leaving behind him a well-cared-for and much-enriched collection. Developments in the Museum are foreshadowed in this report, which will increase its usefulness to students and practitioners alike. Among these changes are the formation of a section of surgical anatomy and the inclusion of photomicrographs and *x*-ray prints in the *Catalogue of the Pathological Collection*. Interesting specimens have been added to each of the various collections, but there is an excellent attempt to ensure a supply of good teaching specimens for the student who wishes to see the commoner pathological lesions and well-demonstrated dissections. The odontological collection has been increased considerably, especially in that part devoted to comparative dental pathology. The very interesting work on twelve skeletons of Mousterian Age, which is being carried on by Mr. T. D. McCown under the direction of Sir Arthur Keith, has provided a new insight into the development of the Neanderthal type of man and a fascinating story of the prehistoric peoples of Palestine. Much unspectacular but very helpful assistance to students of many subjects and of all ages has been provided during the past year. Modest references by the various curators show how much the serious worker appreciates and uses the facilities which are provided. Out of the Museum has grown the Research Department of the College. The offspring shows the same catholic interests as did the founder of the Museum, and like most offspring has the healthy

habit of outgrowing its clothes. A scheme to remodel the top two floors of the college in order to accommodate the Museum workrooms and the research laboratories is being considered. If it is brought to fruition the College will make one more valuable addition to its list of contributions to the advancement of the science and art of surgery. Research work covers so many fields that it is impossible to do more than to make a list of the workers and the investigations on which they are engaged: Mr. F. H. Bentley, on wound healing studied by tissue-culture methods and, in association with Mr. G. C. Knight, on nerve grafting ; Dr. A. S. Kerr, on the higher nervous control of bladder function ; Mr. Harold Burrows, on pituitary studies ; Mr. H. J. Burrows, on the effects of trauma, etc., on epiphyses ; Colonel E. P. Argyle, on facial and laryngeal paralysis in horses ; Mr. G. C. Knight, on achalasia of the cardia, and, with Dr. Slome, on intestinal obstruction ; Dr. Slome, on traumatic shock, with Mr. O'Shaughnessy ; Mr. J. Ivor Griffiths, on the lymphatic drainage of the tonsils ; Mr. L. O'Shaughnessy, on cardiovascular surgery ; Mr. G. A. Mason, on the effects of pulmonary collapse ; a group of workers from the Westminster Hospital, on the effects of injection of irradiated tumour material into horses ; and Dr. R. A. Willis, on a series of important pathological problems. This extensive list gives but a small idea of the ever-increasing influence which is being exerted on the younger generation of surgeons who have taken the opportunities offered them for work in the College laboratories. The College Council is to be congratulated on the way in which it is encouraging scientific research, and on the number of young men that it has attracted to work in its Museum and laboratories.

## CENTENARY OF OWEN THOMAS

Owen Thomas is rapidly coming to his proper place among the leaders of medicine. Some time ago[1] we noted the publication of an excellent study of his life by Frederick Watson, who holds the double recommendation of being Sir Robert Jones's son-in-law and Ian Maclaren's son. There has now appeared a companion volume dealing with Owen Thomas as a surgeon and physician—for he was physician as well as surgeon and made original contributions to the knowledge of both.[2] This volume is written by Mr. D. McCrae Aitken, and in reality completes the "Life" which the late Sir Robert Jones had planned to mark the centenary of Owen Thomas's birth. No one knows the history and practice of the Owen Thomas school so well as Mr. McCrae Aitken. He has given a most excellent account of the principles which were formulated and applied by the founder of the school. There are definite points of resemblance between Owen Thomas and John Hunter. Hunter elaborated "principles," and on these he based the treatment of cases ; so did Thomas. Both perceived that the power to heal was resident in the living tissues at the seat of injury, and that this power must be encouraged by every means at the disposal of physician and surgeon. And Thomas as well as Hunter, so unlike in appearance, had a fighting and quarrelsome temper. Just before his death, as Mr. McCrae Aitken records, Thomas was driving with Dr. Ridlon of the U.S.A. "Friend Ridlon," he said to his companion, "I want you to carry on the fight for the right principles. Robert Jones is a dear fellow and knows the work, but he is no fighter." One dare assert that Robert Jones won the approval of the profession because he had tact and Owen Thomas lost it because he had temper. Much new and original material bearing on the domestic life and professional labours will be found in the Centenary Lecture given by Mr. T. P. McMurray to the Liverpool Medical Institution.[3]

[1] *British Medical Journal*, February 9th, 1935.
[2] *Hugh Owen Thomas. His Principles and Practice.* By D. McCrae Aitken, M.B., F.R.C.S. London: H. Milford, Oxford University Press. (12s. 6d. net.)

## TRANSPLANTATION OF THE CORNEA

With all the brilliant achievements of the nineteenth century in ophthalmology, there was one disappointment. The eighteenth century had solved the problem of blindness from opacity of the lens by evolving the modern cataract operation ; iridotomy was another step in relieving blindness due to occlusion of the pupil ; but all efforts in the nineteenth century towards relieving blindness from opacities in the cornea were unsuccessful. As early as 1795 Erasmus Darwin trephined out opaque areas in the cornea, hoping to obtain clear substance on healing. Subsequently attempts were made to excise corneal scars and to suture the clear cornea. During the first third of the last century many attempts were made to transplant the cornea *in toto*. Experimental work on rabbits raised great hopes, but the operation invariably failed when performed on man. A new approach was evolved by Nussbaum in 1856: he implanted a glass lens in the cornea, and though technically this was successful the eye was invariably lost from irritation. Yet another method of approach was the application of contact glasses, but these had no great utility where the cornea was scarred to any extent. It was only at the beginning of the present century that, with the classical case of Zirm, the first success with corneal transplantation was achieved. The work that has evolved since has been based largely upon the recognition that if a graft is to succeed it must be of human origin, small, and implanted into the cornea itself. At the Oxford Ophthalmological Congress Mr. Tudor Thomas gave an interesting review of the present state of knowledge on this subject. Elschnig of Prague has had experience of no fewer than 139 cases, and Filatov of Odessa of nearly fifty. Tudor Thomas, speaking from experience of twenty-three cases, showed that his own technique gives something like 75 per cent. of successes in selected cases. Taking the results as a whole, the percentage of successes was in the neighbourhood of 50. Much apparently depends upon the state of the cornea undergoing grafting ; different observers lay down somewhat conflicting criteria, so that even now the question whether opacities due to injury or to disease are the more amenable to treatment must be left open. It would appear that to ensure success some clear cornea must be present. For an operation which as yet has no standardized method and no

[3] *Liverpool Med.-Chir. Journ.*, 1935, xliii, 3.

unequivocal indications, the results reported are distinctly hopeful. There can be no doubt that a promising, even if limited, field of activity has been opened up by this work.

## CHEMICAL RESEARCH

The report of the Chemistry Research Board for 1934[1] is the first of its kind, although the organization has been in existence for nine years. The board carries out in its own laboratories a wide variety of investigations upon problems of importance to industry, and incidentally has done a considerable amount of work in relation to medical science. The chapter on chemotherapy mentions numerous disappointments, but recently certain new organic arsenicals have been discovered which promise to be of service in trypanosomiasis. A long series of phenanthridine derivatives has been investigated in the hope of finding an active antimalarial drug, and although this has not been achieved some interesting new antiseptics have been produced. It is generally known that the production of new resins is a subject now attracting the special attention of chemists, and one interesting piece of work has been the search for a resin which will form a satisfactory substitute for vulcanite in artificial dentures. Dental cements and dental plasters have also been studied and improvements in these substances have been introduced. The above notes indicate the researches of special interest to medical science, but the main activities of the laboratories have been directed towards such industrial problems as the corrosion of metals, the chemistry of tars, the production of synthetic resins, and the prevention of the microbiological destruction of ropes, canvas, and nets.

## "THE VISITOR TO AUSTRALIA"

Members of the British Medical Association who are visiting Australia for the 103rd Annual Meeting of the Association, which is to be held in Melbourne next September in celebration of the centenary of that city, will be pleased to have brought to their notice the short guide-book, *The Visitor to Australia*, by Professor W. A. Osborne.[2] Professor Osborne is Dean of the Medical Faculty of the University of Melbourne and holds the chair of physiology, to which he was appointed over thirty years ago, after having been assistant professor in the physiological department of University College, London. He is a prominent member of the Victorian Branch of the B.M.A. His book was issued as a special publication in connexion with the centenary celebrations of Victoria, and copies were presented by the Government to many official guests. In bringing it to the notice of visiting members of the B.M.A., we may quote from the foreword to the volume. This is written jointly by the Lord Mayor of Melbourne of the Victorian centenary year, Sir H. Gengoult Smith, and the then Premier of Victoria, the Hon. Sir Stanley Argyle. "Such a book as this," they say, "could not be written by an Australian. It demands of its author a neutral birth, an extended Australian residence, a great deal of travel, the gift of observation supported by a lifetime of scientific endeavour, and the will to make use of all these gifts. It demands also the power of expression, a fund of humour, and the courage of a real exponent. All these qualities Professor Osborne has in marked degree." It is of interest to note that both the Lord Mayor of Melbourne and the Premier of Victoria on this historic occasion are members of our profession. Thus Professor Osborne's book demonstrates the large share which is being taken by medical men in the social development of Australia.

[1] London: H.M. Stationery Office. 1935. (1s. 6d. net.)
[2] London: Sir Isaac Pitman and Sons, Ltd. 1934. (7s. 6d. net.)

## VITAMIN STANDARDS

At the request of the Health Organization of the League of Nations, the Board of Trustees of the United States *Pharmacopoeia* has consented to make generally available the standard cod-liver oils, prepared for use in the United States as secondary standards for vitamins A and D. The distribution of these oils will not be made through the national distributing centres as in the case of the primary vitamin standards, but direct to individual users. They may be obtained from: E. Fullerton Cook, Ph.M., Chairman of the Committee of Revision of the U.S. *Pharmacopoeia*, 43rd Street and Woodland Avenue, Philadelphia, Pa., U.S.A. It should be clearly stated whether vitamin A oil or vitamin D oil is required. A charge of 2.50 dollars is made for containers holding 30 c.cm. A sum to cover the cost of the quantity required should be sent by international money order with the application. The oils will be sent post free to their destinations. These reference oils are checked each six months biologically against the international standards by at least six laboratories, and their potency should therefore be increasingly dependable.

## THE HALF-YEARLY INDEXES

The usual half-yearly indexes to the *Journal* and to the *Supplement* and *Epitome* have been printed; they will, however, not be issued with all copies of the *Journal*, but only to those readers who ask for them. Any member or subscriber who wishes to have one or all of the indexes can obtain what he wants, post free, by sending a postcard notifying his desire to the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1. Those wishing to receive the indexes regularly as published should intimate this.

At the last quarterly meeting of the Council of the Royal College of Surgeons Sir Cuthbert Wallace was elected President, in succession to Sir Holburt Waring.

Sir Ewen Maclean has been elected President of the British College of Obstetricians and Gynaecologists, in succession to Dr. J. S. Fairbairn. The Fellowship and Membership of the College now include almost every teacher of obstetrics and gynaecology in the British Isles and Dominions.

# TREATMENT IN GENERAL PRACTICE

*This article is one of a series on the management of some of the major medical disorders met with in general practice.*

## FUNCTIONAL DISORDERS OF THE HEART

BY

A. G. GIBSON, M.D., F.R.C.P.

Functional disorders of the heart are seen in those who are organically sound as well as in those with disease of the heart or vessels. In the latter case, however, the functional element is so overshadowed by the organic as to be of minor practical interest. The remarks that follow are mainly concerned with hearts that are organically sound.

The symptoms of functional disease bulk considerably in ordinary practice, and unless treated upon right lines may result in a condition of chronic ill-health. It is presumed that every patient who is suspected of having any functional ailment will be examined by all the usual clinical methods. It is especially necessary to be clear as to the presence or absence of organic murmurs, enlargement of the heart, the systolic and diastolic blood pressure, and the cardiac reserve as defined by the patient's reaction to ordinary exertions in the course of his life and to simple tests which may be done during an examination.

### Palpitation

The normal heart in a normal body gives no sensation or awareness of beating, and it is very rare to hear a complaint from a patient with gross heart disease of discomfort from that source, even though the whole chest is shaken at each beat. But patients frequently complain of this awareness of the beat, and an inability to sleep on the left side owing to this sensation keeping them awake. Examination of the cardiovascular system may sometimes reveal a raised blood pressure from early arterial change, sometimes also the signs of hyperthyroidism. But in other patients the cardiovascular system to clinical examination is normal and the exercise tolerance is not diminished. The cause may be that the patient has recently passed through an acute infection and has resumed work too soon. In other patients it is necessary to search for the effects of a toxin such as alcohol or for a focus of infection, or to make inquiry as to whether the patient has recently been subject to any mental or physical strain. The treatment in any case should be directed towards eliminating undue stresses or toxins, by correcting any faulty habits, and by giving bromides (pot. brom. 15 grains thrice daily). Treatment by cardiac tonics must be avoided, in order that the patient's idea of cardiac disease, which he may secretly cherish, may be removed ; also for the reason that cardiac tonics such as digitalis do no good.

### Extrasystoles

Extrasystoles may occur without demonstrable cardiac disease or as the result of myocardial affections. As purely functional features they disappear when the cardiac rate is raised by exercise, and they are not accompanied by pain, embarrassment, or breathlessness, through exertion. They are sometimes extremely uncomfortable to the patient, and unless the condition is explained to him as being of no consequence they may repeatedly remind him of a heart of which he was previously unaware. The source of such extrasystoles is frequently extracardial—a septic focus such as enlarged tonsils, and the result of irritation of the gastric mucosa, as, for instance, in chronic alcoholism, in which the liver is beginning to be enlarged. Occasionally they may give warning of more serious myocardial conditions in middle-aged people, such as the approach of disease of the coronary arteries. Under these circumstances a more careful examination of the heart should be made, including an electrocardiogram.

The main element in treatment when there is no sign of incipient cardiac disease or insufficiency is to assure the patient that the symptoms are not serious, to make a complete overhaul of the other systems, and to inquire into the daily life of the patient so that the necessary corrections may be applied. Sir James Mackenzie used to recommend as the best treatment 20 grains of ammonium bromide three times a day for two days, to be repeated again after an interval.

### Simple Tachycardia

The treatment of a tachycardia which may be producing discomfort or symptoms depends on having a clear notion of its cause, for it is seldom amenable to efficient treatment by drugs which act on the heart. Tachycardia which depends on a recent attack of some infective disease such as pneumonia, diphtheria, or influenza is best treated by a prolonged convalescence and rest. Acute rheumatism which has caused a tachycardia would seldom be without some other feature either in the history or state which would give the clue. An anaemia would have its appropriate remedy according to its type, though even severe anaemias do not always quicken the pulse at rest.

There are three common types of tachycardia for which the remedies are clear.

1. The first is that dependent upon abnormality of thyroid action, whether as in exophthalmic goitre or from what is commonly called toxic goitre. In the latter type there may be few of the ordinary signs of thyroidal disease, and yet the excision of the larger part of the thyroid may bring great amelioration in the condition of the patient. It occasionally happens that a patient may secretly be taking thyroid for " slimming " or some other purpose.

2. Chronic infection of the throat from a haemolytic streptococcus sometimes gives rise to a persistent tachycardia which may be very difficult to distinguish from early hyperthyroidism. The throat may show no more than a granular pharyngitis, such as may be seen in many persons during the winter months. The treatment should be local and general. Astringent preparations such as glycerin of tannin or glycerin of alum painted on the throat two or three times daily tend to heal at least those parts of the throat that can be reached by a brush ; vaccine therapy is also of value, but if an autogenous vaccine is used the doses should be minute at first—for example, one million streptococci or less—because these patients may be unduly sensitive, and the reaction, both local and general, may be severe.

3. In some patients coming with a trivial complaint the only physical sign may be tachycardia ; in a case of this nature it is well to suspect some emotional cause.

such as an anxiety neurosis. The rate of the heart in this type of case tends to become less as the confidence of the patient is gained, because many of his fears are not necessarily deep-seated. The fear of cancer or of pregnancy in women are common examples. If these patients are put to some simple exercise test the pulse is frequently the same or less rapid after the test ; it thus becomes clear that the rapid pulse is not an indication of diminution of cardiac reserve. In such a patient it is best to explain that no disease has been found, and with tact to inquire if there has been any psychological difficulties. When the confidence of the patient has been gained it is frequently possible without offence to ask direct questions as to possible causes of anxiety. Drug treatment is best avoided altogether.

### Precordial Pain

A pain on the left side of the chest may have its origin in a pleurisy, intercostal neuritis, or some other non-cardiac ailment. Apart from disease of neighbouring organs, pain in the region of the heart is the unmasking by some abnormal stress of a normal reflex mechanism. The pain of " stitch " that is complained of by schoolboys and untrained athletes at the limits of their tolerance sometimes has the distribution of the pain in angina pectoris. Pains that occur in young persons and in women in this region are less likely to be cardiac or serious than pain which occurs in middle-aged men, and the first thing to be satisfied about is whether the heart is normal to clinical tests and has a normal exercise tolerance. When necessary an electrocardiogram should be taken, because it might reveal something hitherto unsuspected.

The treatment of these precordial pains, as of the other functional disturbances that have been considered, depends on relieving the patient of some stress that has been causing the pain. Rarely a careful history may reveal some toxic cause. Alcoholic patients frequently refer their abnormal sensations to the heart. Excessive smoking should be inquired into, and though we cannot often be certain that tobacco is the cause of pain in the heart an obvious excess should be cut down. Most patients resent a suggestion that they should give up tobacco completely, but are ready to accept the advice that they should cut it down by half.

Among the reflex causes of precordial pain is an irritation from an inflamed gall-bladder or a duodenal ulcer. Abnormalities of the oesophagus, such as a chronic oesophagitis, may also simulate a cardiac pain. Abnormalities of this nature should be corrected. An anxiety neurosis is also a frequent cause of precordial pain, and the treatment should include a strongly worded assurance of the absence of disease. Associated with the anxiety neurosis in women there may be a mild degree of hypochromic anaemia, and the anxiety may be based on an inability, through the anaemia, to do what is demanded by the exigencies of normal life. The treatment of the anaemia is to give ferri et ammon. cit. 30 grains thrice daily in a mixture. All nervous stress and fatigue may accentuate pain of this nature. Drug treatment of the heart would be a confession of failure, and the method is to allay the excitability of the cardiac reflex previously referred to by getting the patient to pay less attention to the heart, and by giving bromides combined or not, as thought necessary, with hypnotics.

It is best in dealing with these patients to avoid the use of the words angina or anginal pain, which are now employed for clearly defined cardiac disease. The term " precordial pain " has no such ominous significance. It merely states the position in which the patient feels discomfort and does not necessarily imply the existence of organic disease.

### The Effort Syndrome

The effort syndrome is now rare, and though more common in men is not confined to them. Repeated clinical examinations are necessary to exclude organic heart disease, hyperthyroidism, and chronic infections, especially from faulty teeth and an anxiety neurosis. It is wise to have an electrocardiogram done in case of subsequent developments, for though with lapse of time and general treatment with this patients tend to recover, it may be the beginning of slow coronary change, which may ultimately show itself in sudden death. The patients must be put to a healthy life with a regular amount of exercise, which should be taken at their own pace, short of great pain or fatigue. The most useful drug is bromide.

### The Athlete's Heart

Athletic strain is a potential source of temporary cardiac disability ; but in well-trained persons with a normal physique it would appear to be excessively rare. Minor changes, however, are not infrequently seen in those who engage in athletics without proper training or with a recent history of some-mild infection. Nevertheless, young men engage in competitive athletics a week or so after a febrile attack without ill effect.

The changes that are most likely to be met with are a pulse that is more rapid than normal, a slightly misplaced apex beat, a systolic murmur at the apex, and very rarely a diastolic at the base. When any such abnormality is found it is best to restrict exercise to walking. It is seldom necessary to put such a patient to bed unless there is a suspicion of rheumatic endocarditis. Temporary disturbances of this kind, if due mainly to strain, settle down in a week or two, and subsequent athletics can be undertaken gradually with proper training, preferably under supervision. It is necessary to be sure that what may be suspected to be a cardiac murmur is not a cardio-respiratory murmur, that the misplaced apex beat is really in the fifth and not in the fourth space—where it might have no significance—and that the rapid pulse is not due to some psychological cause. If there is no adequate reason for the cardiac condition the patient should be examined for a cryptic infection, and inquiry should be made into his habits, especially in respect of alcohol.

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O. Lassen (*Hospitalstidende*, May 21st, 1935) believes, after many years' experience in the tuberculosis dispensary of a large Danish town, that it is through this institution that further progress is to be sought in the reduction of the tuberculosis mortality. But if the dispensary is to serve its purpose, its staff must go to the patient and his contacts, and not wait to be visited by them. The ideal is the visiting and examination of every person in the household of a new case. In 1933, in the town in question, fifty-four new open cases of pulmonary tuberculosis were notified. They belonged to fifty-two households with a total membership of 152 apart from the patients. As many as 124 of these 152 contacts were examined, and in thirty households all the contacts were examined. The author believes that it should soon be possible for such home medical examinations to be accepted by every member of the household as a matter of course ; at present it is often the peccant source of infection who refuses to be examined. Between 1920 and 1933 the deaths from pulmonary tuberculosis per 10,000 inhabitants in this town (Aarhus) have fallen from between eight and nine to between three and four. In the same period the percentage of tuberculosis deaths occurring in hospital or sanatorium has risen from between thirty and forty to between eighty and ninety. This growing tendency for patients to die in an institution instead of at home is most desirable in the opinion of the author, who sees in the isolation of infectious cases one of the best guarantees for stamping out tuberculosis. Home conditions are often unknown to the medical authorities.

# IMPERIAL SOCIAL HYGIENE CONGRESS

The seventh Imperial Social Hygiene Congress, organized by the British Social Hygiene Council, was held in London last week. It was largely attended by delegates from home and oversea Government departments, the League of Nations and other international organizations, the universities and local authorities of Great Britain, and voluntary bodies. The British Medical Association was represented by Dr. W. G. WILLOUGHBY. Sir BASIL BLACKETT was president of the congress, and in his address from the chair took occasion to review the progress made in combating venereal diseases and in inculcating higher ideals of character during the twenty-one years since the British Social Hygiene Council (at first known as the National Council for Combating Venereal Diseases) was started.

## THE VENEREAL DISEASE PATIENT IN HOSPITAL

At one of the plenary sessions Dr. LETITIA FAIRFIELD read a paper on this subject. In-patients suffering from venereal disease were, she said, disliked by hospital committees because they were expensive and also gave a bad name to the institution ; by the matron because they created disciplinary problems ; by the medical staff because of their indeterminate length of stay ; and in-patient treatment was disliked by the patients themselves because it entailed prolonged detention. Thus the in-patient aspect of the problem had been neglected, though its importance justified a great deal more work being done. In spite of the disadvantages mentioned, the in-patient treatment of venereal disease had a most important part to play in the treatment as well as in the prevention of the disease.

She then went on to detail the steps taken in L.C.C. hospitals to accommodate such in-patients. It had been found definitely worth while to do a Wassermann test on every woman coming for the first time to the ante-natal clinics, with the result that an increased number of infected cases had been able to obtain prophylactic treatment during pregnancy. If the women had no homes in which treatment could be carried on they were immediately admitted to the venereal diseases wards. Their confinement could take place in a special maternity hospital, or use could be made of the side wards of the general hospitals to which they had first applied for treatment. But it was not sufficient to provide wards and units, good and differentiated as they might be ; the wards must be in touch with a good bacteriological service, which meant something closer than simply sending swabs by post to a bacteriologist whose only knowledge of the case was the name on the label. Her own experience had proved that much advantage was to be derived from getting the bacteriologist in close touch with the treatment of venereal disease, and from having him available as a genuine consultant.

## TREATMENT OF VENEREAL DISEASE: THE PRESENT POSITION

At the first of two medical sessions, which was presided over by Sir FARQUHAR BUZZARD, a review of the present position of the treatment of venereal disease was given by Colonel L. W. HARRISON of the Ministry of Health. He said that, judging by the annual returns furnished by treatment centres, no impression had been made on the incidence of gonorrhoea, but it might be that the larger number of cases returned was due to an increased appreciation of the centres and of the seriousness of the disease. The most definite advance in treatment of recent years had been the production of hyperpyrexia. Artificially induced fever, with a temperature up to 106° for six hours or so, had been shown to be a valuable aid in the treatment of gonococcal infections. With regard to everyday methods of treatment, he still held to his belief in the two great principles of maintained drainage and the raising of resistance, as measured by the complement-fixation method, to the highest possible point.

With regard to the control of syphilis he referred with appreciation to the issue by the League of Nations of certain recommendations (which have already appeared in the *British Medical Journal*) on the treatment of the early condition, and he expressed the hope that the report of the committee in question would help in another matter. For a number of years there had been dissatisfaction with the treatment given to the merchant seaman suffering from syphilis. The man moved from clinic to clinic, receiving at each an injection, or not, according to the fancy of the officer concerned. Nobody told him when his course was finished, when another should be started, when his blood should be tested, and so on ; altogether the whole business was terribly haphazard. Colonel Harrison said that no positive step was taken until last year, when he presented a note to the Office International d'Hygiène Publique, in which he submitted a number of courses which might be adopted, but when the League of Nations report became available he scrapped all he had previously suggested, and proposed that one or other of the League's recommended courses should be adopted as a framework of the programme of treatment for the seaman. What he had in mind was that the seaman's card should be marked with the treatment he had been receiving and should continue to receive, so that the medical officers in other ports where he went for treatment should know what ought to be done. With regard to soft chancre, European workers were becoming far more discriminating than formerly. A form of treatment which he would always recommend to be tried in any non-syphilitic ulceration of the genital organs, or inguinal bubo which seemed at all likely to be due to Ducrey's bacillus, was intravenous injection of the Ducrey bacillus vaccine called " dmelcos."

Dr. R. C. L. BATCHELOR gave a report and commentary on the recent work of the Edinburgh Venereal Diseases Clinic. This included an investigation on the Kline slide-precipitation test, which was found to be a useful adjuvant to, but an indifferent substitute for, the Wassermann, its chief value lying in the later stages of syphilis under treatment, and in cases, such as interstitial keratitis, where it was specially important that syphilis should be excluded. On the administrative side, the influence of unemployment on the spread of venereal disease had been studied. The influence of unemployment was lessened by the organization of clubs and social services. Prostitution did not seem to be on the increase, but there was an increase in sex delinquency of a non-commercial type.

A paper was also read from Major JELAL SHAH, specialist in venereal diseases to the Government of Bombay, on the treatment of acute gonococcal epididymitis. He emphasized the importance of adequate routine treatment, a matter which, generally speaking, had not received from the profession the attention it deserved. In some further discussion Dr. A. S. PLANT (Grimsby) referred with appreciation to the international scheme of treatment for seamen, and Dr. E. BRITTEN JONES (Victoria) spoke of the seriousness of syphilis as a factor in mental defect.

## RELATION BETWEEN YAWS AND SYPHILIS

The second medical session, over which Dr. H. S. STANNUS presided, constituted a friendly controversy over the relationship between yaws and syphilis.

Dr. P. H. MANSON-BAHR held that, in spite of admitted differences, one of which was that syphilis was a hereditary manifestation whilst yaws was not, the diseases must not be regarded as definitely and absolutely separable. He suggested that yaws might represent a primitive form of syphilis amongst primitive people, being the original type of spirochaetal disease which in former times and in less civilized conditions had a much more extended distribution than at the present day. The more insanitary conditions and habits of the peoples and the more intimate contact of one person with another ensured the direct transference of the spirochaete from man to man by contact-inoculation, as undoubtedly occurred at the present time amongst yaws-infected tropical races. With the advance of civilization and the general adoption of clothing, contact-inoculation became no longer possible, so that a strain

of spirochaete gradually became evolved which could be conveyed solely by sexual contact via the mucous membrane. Dr. Manson-Bahr pointed to typhus as another well-known instance of the variation of the same disease under different conditions, so that while the main characteristics of the geographical races of typhus remained the same, the Rocky Mountain typhus was transmitted by a tick, the Old World form by a louse, the endemic form by a rat-flea, and the Far Eastern form by a mite.

Major G. J. KEANE, lately director of the medical and sanitary services, Uganda, mentioned some of the practical difficulties in the problem of differential diagnosis between the two conditions. Cases of yaws could be cleared up with the exhibition of three or four doses of a salvarsan substitute, while most cases of syphilis required about two years' treatment. Thus the therapeutic cost of cure of a case of yaws was only perhaps one-tenth of that of a case of syphilis—an important matter from the standpoint of Colonial Governments responsible each year for the treatment of hundreds of thousands of cases in their districts. Another short paper illustrating the administrative side of the subject was read from Dr. J. L. GILKS, lately director of medical and sanitary services, Kenya.

Dr. STANNUS, from the chair, presented a voluminous paper on the subject. He pointed out that many of those working in countries where yaws was a common disease had little or no adequate knowledge of syphilis, and, conversely, the majority of European and American syphilologists had no first-hand knowledge of yaws. He drew a number of distinctions between yaws and syphilis. In yaws the primary sore was generally extragenital, in syphilis genital. In yaws the mucous membranes were as a rule not affected, in syphilis they were generally affected. Yaws was never congenital, and the sufferer from yaws ran no danger of developing visceral, nervous, or arterial lesions. It appeared nearer the truth to say that the conditions which favoured the spread of yaws and syphilis were mutually exclusive rather that the two diseases were mutually exclusive. Yaws was a disease of the bush native, syphilis was seen amongst town dwellers. The replacement of yaws by syphilis in Africa had been described by French and Belgian observers, and the converse had happened—namely, the outbreak of an epidemic of yaws in a population not previously affected, amongst the natives employed in a Johannesburg mine. The fact that European workers contracted the disease as well as natives showed clearly that yaws was not, as was often assumed, a disease of coloured races.

In the course of discussion the question was asked—and answered in the negative—whether any difference could be distinguished under dark-ground illumination between the *Spirochaeta pallida* and the *Spirochaeta pallidula*. Dr. E. T. BURKE (Salford) recalled Jonathan Hutchinson's remark that syphilis and yaws could be likened to first cousins, yaws perhaps bearing to syphilis the same relation as the anthropoid ape to man. This speaker ranged himself on the side of the duallists, regarding the two diseases as entirely distinct, though perhaps coming from a common stock, but he added that it was interesting to compare other syphiloid diseases which resembled yaws more than syphilis, and a Yugoslavian assistant of his had told him that the syphilis seen in the Balkan States took on a framboesiform character in some of the smaller villages. Dr. MANSON-BAHR held to his contention, and drew parallels from natural history. Who would suppose the greyhound and the Pekinese to derive from a common ancester, or the small light-coloured song sparrow of South Carolina and the large dark bird of the Northern States? It seemed to him that as time went on many hard-and-fast lines would be broken down.

### THE CONGRESS DINNER

Sir BASIL BLACKETT presided over a distinguished and representative company at the dinner, held at the May Fair Hotel on July 11th. Professor Winifred Cullis, a vice-president of the Council, proposed "Health and Education in the British Empire." She spoke in particular of the teaching of biology in universities and schools, which had formed a leading theme of discussion in the congress. Real training in biology was the indisputable foundation for citizenship, a necessary element in culture, and an essential in the equipment of workers over-seas. But biological knowledge was not enough; there must be behind it a conscience and a sense of responsibility.

Dr. ARTHUR MACNALTY, Chief Medical Officer, Ministry of Health, in responding, congratulated those concerned on the scope and interest of the congress. It could be claimed that Great Britain had been a pioneer in respect both to health and to education. These activities, many of which began in the voluntary labours of single-hearted humanitarians like Jeremy Bentham and Robert Owen, had been gradually welded into a comprehensive system of public health and national education which flourished in this country to-day. Moreover, Great Britain had not hoarded her knowledge, but had shared it with all the countries comprising the British Empire, and indeed with all the countries of the world. The Ministry of Health maintained close touch with all the international work carried out in connexion with the treatment of venereal disease, tuberculosis, and other diseases, and there was a regular interchange of information between the Governments of the British Empire. How many epidemics, how much plague and pestilence, had been prevented by this world-wide organization must be left to the imagination.

In reply to the toast of "The Guests," which was proposed by Sir FRANCIS FREMANTLE, M.P., Sir BEDE CLIFFORD, Governor of the Bahamas, said that Britain had built up a tropical medical science with which no other country in the world could compare. It was no exaggeration to say that had it not been for the medical profession and its great pioneers in research it would not be possible to visualize the British Empire as we now knew it; indeed, the Empire might not really exist at all. He also commended the efforts of the British Social Hygiene Council with its imperial congresses, whereby a vast amount of information was disseminated and useful experience exchanged. Miss F. HORSBURGH, M.P., also replied to the toast, and referred to the great importance of slum clearance in improving the health of the nation.

## BEIT MEMORIAL TRUST FOR MEDICAL RESEARCH

A meeting of the trustees of the Beit Memorial Fellowships for Medical Research was held on July 12th for the election of Fellows and other business. The trustees expressed their deep regret at the recent death of Sir John Rose Bradford, F.R.S., who had been an original member of the advisory board in 1909 and had, with the late Sir James Kingston Fowler, taken a most important share in advising Sir Otto Beit upon the foundation of the Trust. Sir John remained on the advisory board for twelve years, and subsequently gave valuable service as a trustee for the last five years of his life.

Confirmation was given to the appointment of Lord Macmillan of Aberfeldy as a trustee, and Professor T. R. Elliott, F.R.S., was also appointed a trustee, in succession to Sir John Rose Bradford. The trustees accepted with regret the resignation of Sir Charles Sherrington, F.R.S., from the advisory board after twenty-four years of service, throughout which his wisdom and special knowledge had given invaluable aid to the work of the Trust. They appointed in his place Professor E. D. Adrian, F.R.S. The trustees noted with pleasure that two members of the advisory board had received honour recently from the King, Sir F. Gowland Hopkins, P.R.S., being granted the Order of Merit and Sir Patrick Laidlaw that of knighthood.

Fellowships during the year 1934–5 were held by twenty-six workers. Among the appointments gained during the year by past Fellows may be noted that of J. R. Marrack (1914) to the professorship of chemical pathology, University of London, at the London Hospital; of A. St. G. Huggett (1922–5) to the professorship of physiology, University of London, at St. Mary's Hospital; of W. P. Kennedy (1929–32) to the professorship of biology, Royal

Medical College, Baghdad ; and of F. H. Smirk (1930–4) to the professorship of pharmacology in the Egyptian University, Cairo. W. R. Aykroyd (1928–31) has been appointed director of nutritional research under the Indian Research Fund Association. S. Zuckerman (1934– ) was awarded the W. J. Mickle Prize Fellowship for 1935 of the University of London.

### ELECTION OF NEW FELLOWS

The trustees did not proceed to an election this year of a Beit Professorial Fellow, but they hope to make such an appointment as soon as a suitable occasion arises. The following elections were made:

*Senior Fellowship* (value £700 per annum).—Robert Hill, M.A.Camb. To continue his studies on the respiratory function of haemoglobin (Physiological Laboratory and the Molteno Institute, University of Cambridge).

*Fourth Year Fellowships* (value £500 per annum).—Robert Gaddie, B.Sc., Ph.D.Ed. To continue his research on the metabolism of heart muscle (Departments of Medical Chemistry and Materia Medica, University of Edinburgh). John Michael Robson, D.Sc., M.D.Leeds. To continue his work on the hormonic factors concerned in the maintenance of pregnancy and initiation of parturition (Institute of Animal Genetics, University of Edinburgh, or School of Agriculture, University of Cambridge). Frank George Young, B.Sc., Ph.D.Lond. To study the diabetogenic factors of the anterior pituitary gland (Department of Physiology and Biochemistry, University College, London).

*Junior Fellowships* (normal value £400 per annum).—Alexander Robertus Todd, B.Sc.Glasg., Ph.D.Frankfurt and Ph.D.Oxon. Proposed research: The molecular structure of vitamin $B_1$ (Department of Medical Chemistry, University of Edinburgh). Robert James Kellar, M.B., Ch.B.Ed., M.C.O.G. Proposed research: The problem of nephritis and high blood pressure associated with pregnancy (London Laboratories of the Royal College of Surgeons and the Obstetric Unit, University College Hospital). Norman Lowther Edson, M.B., B.S.New Zealand. Proposed research: Fat metabolism and ketogenesis (Institute of Biochemistry, University of Cambridge). Myer Head Salaman, M.A., M.D. Proposed research: Investigation of the antigenc structure of the vaccinia virus (Lister Institute of Preventive Medicine, London). James Davidson Fulton, B.Sc., Ph.D., M.B., Ch.B.Glasg. Proposed research: The experimental chemotherapy of malaria (London School of Hygiene and Tropical Medicine). Adèle Helen Rosenheim, M.A.Camb., Ph.D.Lond. Proposed research: The chemical nature of antibodies, especially those in anti-typhoid sera (Lister Institute of Preventive Medicine, London).

All correspondence of Fellows and candidates should be addressed to Professor T. R. Elliott, M.D., F.R.S., honorary secretary, Beit Memorial Fellowships, University College Hospital Medical School, University Street, W.C.1.

# Nova et Vetera

## THE SHIFTING SANDS OF THE ARCHITECTURE OF MEDICINE *

BY

Sir HUMPHRY ROLLESTON, Bart.,
G.C.V.O., K.C.B., M.D.

The question has recently been raised whether or not the great post-war depression, hopelessness, weariness, and moral disintegration in some other branches of human activity has infected medicine. Some pessimist might suggest that medicine is like Shakespeare's seven ages of man, in which second childhood closes this strange eventful history. Dr. David Riesman both raised this disturbing question and answered it in a comforting negative based on a review of the activities during three-quarters of a century of the Pathological Society of Philadelphia, which he was then addressing. The West Kent Medico-Chirurgical Society, now in its seventy-eighth year, has had a longer life, and I would offer my congratulations on its authoritative example in refutation of any suggestion of senility in the science and art of medicine.

A review of the past tends to correct any present discontents of the *laudator temporis acti*. It is often said that life consists in rhythm, in cycles like the weather, and of recurring phases. Medicine has generally grown up, not with the constant, steady advance which the present generation has watched, but with intervals between a series of peaks. Its course has been thus divided by Dana of New York into seven periods: the pre-Hippocratic, the Hippocratic, the Alexandrian, the Galenic and post-Galenic, the Renaissance, the sixth of theories and speculations ending with Jenner, and the modern period—with dividing peaks.

### JOHN PRIOR PURVIS

In looking backward on the great edifice of medicine it is here a proper and pious gesture for one entrusted with the privilege of giving the Purvis Oration to refer to Dr. Prior Purvis who lived through the recent renaissance of our science and art, and was familiar with practice when pus was "laudable" and Lister was despised and rejected of London surgeons.

Born at Greenwich on October 31st, 1812, he was the son of a landowner and market gardener, and after education at Stocker's once well-known school in Poplar was apprenticed at the tender age of 15 to a Mr. Cornwall, surgeon at Fairford, Gloucestershire ; there he had the experience, about which in later life he often talked, of country labourers coming to be "blooded" every spring and fall, and of the surgery then resembling a shambles. On October 4th, 1833, he entered the United Medical Schools of the Borough Hospitals of Guy's and St. Thomas's, as a surgical pupil, and qualified L.S.A. (1834), M.R.C.S. (1835), taking the M.B. (1839), and was one of the first batch to proceed to the M.D. London in 1842. He married in 1840, celebrated his diamond wedding in 1900, and founded a medical family now in the fourth generation ; his son John Prior Purvis (1841–1927) of Greenwich was also a devoted supporter of the West Kent Medico-Chirurgical Society, and held all the honorary offices ; he was honorary treasurer for thirty years (1897–1927), father and son thus performing these duties, often not devoid of anxiety, for the remarkable period of seventy-one years ; he was president in 1879, secretary in 1870–2, and again, when 75 years old, took up these duties for three years (1916–19) when the younger men were at the war. His son, William Prior (1869–1923), M.D.London and F.R.C.S., was a prominent surgeon in Southampton, and the latter's son, Walter Prior, M.B.Cambridge, who has kindly provided me with the family history, is in practice at Southsea.

Prior Purvis, who practised first in Greenwich and later in Blackheath, was in 1856 one of the founders of this society, its president in 1869, and as just mentioned its honorary treasurer for more than forty years (1856–97) ; when he resigned this office the council presented him with a china clock and a pair of vases as "a suitable testimonial, the circumstances of the case being deemed sufficiently unusual to justify the council in departing from its strictly regular functions to this extent": so runs the resolution in the minutes which your secretary, Dr. Buchan, has confided to me. The Purvis Oration was founded in 1895, and so, like the testimonial, was a tribute which he was able to enjoy for thirteen years. The first oration was delivered by A. E. Durham of Guy's Hospital, who gave an account of a voyage he had taken, illustrated, Mr. John Poland tells me, by beautiful paintings of the solar effects in northern latitudes.

A Gladstonian Liberal and, according to family tradition "of a somewhat combative nature," he threw himself into all the great political questions of the day, especially the admission of Jews into Parliament and of women into the medical profession. He supported Sir David Salomons, the first Jew to be elected a Member of Parliament, in 1851 at Greenwich, and in 1868 nominated W. E. Gladstone for Greenwich. In local affairs also he took a very active part. Finally, he lived to the patriarchal age of 95 years, dying at Blackheath on May 20th, 1908.

By "The Shifting Sands of the Architecture of Medicine" is meant the underlying foundations by which medical practice has from time to time been dominated. These, though they have had their day of exclusive popularity, have not necessarily entirely ceased to be, but have usually left a definite impress on the great mosaic of medicine. They are not simply fads and

* The Purvis Oration, given to the West Kent Medico-Chirurgical Society, December 14th, 1934.

fancies ; they are different points of view, each with its own application to particular groups of cases, but not to all.

### THE HUMORAL THEORY

The oldest, the most persistent, and still though under other names to some extent embodied in medicine, is the humoral system. Its beginnings have been traced to Babylonian times, before Hippocrates (460–370 B.C.), who is said to have definitely formulated as the four humours of the body: the blood, phlegm, yellow bile, and black bile, which were latter correlated with the temperaments—namely, in corresponding order, the sanguine, phlegmatic, choleric, and melancholic. The influence of the humoral theory, though it underwent changes in the course of time, lasted into the middle of the last century ; Rokitansky (1804–78), in the first edition (1842) of his *Handbook of Pathological Anatomy*, had much to say about "crases" and "dyscrases" (imbalance of the humours), and about the same time Ayres in the *Lancet* described as humoral diseases the following: syphilis, cancer, melanosis, scrofula, and inflammation.

According to the humoral theory disease is due to disturbance of the normal equilibrium, present in health, of the four humours, disorders of the blood and yellow bile causing acute diseases, and similar changes in the phlegm and black bile producing chronic illnesses. "Coction" was responsible for fevers, inflammation, and suppuration, the cure of which depended on the elimination of the *materies morbi* in the excretions and secretions. This might take place rapidly by crisis, with its "critical" discharges, or more slowly by lysis. The logical treatment of acute diseases, and inflammation especially, was therefore to aid or excite the expulsion of the morbid products —namely, by venesection, purgation, emetics (tartar emetics), diuretics, and salivation (mercury). These remedies reigned supreme for ages, and the amount of blood poured out by venesection and withdrawn by leeches, especially in Paris, was enormous. The treatment of disease by bleeding is very ancient, perhaps older than the humoral system which prolonged its practice, very widespread, and based among primitive people on the idea of getting rid of a disease-demon.

### THE IATRO-CHEMICAL SCHOOL

The iatro-chemical school, somewhat allied to the humoral system, should be mentioned here. Paracelsus (1493–1541), whose personality has done much to obscure the value of his independent opinions, which were much in advance of his time, was first in this field. A sturdy rebel against authority and a thorough-going iconoclast, he cleared the ground in his introductory lecture in 1527 as professor of medicine at Basle by burning publicly in a bonfire the works of Galen and Avicenna. He abandoned the conception of the four humours, and was a pioneer in substituting chemistry for alchemy in medicine. His follower J. B. van Helmont (1577–1644), the Belgian mystic, has been regarded as the founder of the iatro-chemical school, but his doctrines were clarified from mystery by Franciscus Sylvius (1614–72), who established the first chemical laboratory at Leyden, where he was professor of medicine. He argued that acids and alkalis were responsible for the phenomena of health and concerned in those of disease, thus anticipating the acidosis and alkalosis of the present day, and, postulating the existence of ferments, explained the activities of the body on chemical lines. In this country the discoveries of Robert Boyle (1627–91), described as "the seventh son of the Earl of Cork and the father of modern chemistry," stimulated this conception and, seconded by Thomas Willis (1621–75), established chemistry as a science and the handmaid of medicine, now grown into biochemistry.

### THE THEORY OF SOLIDISM

In opposition to the humoral system was the solidist or organicismal theory, which explained disease by changes in the organs, such as excess or insufficiency of tension. The germ of solidism has been traced back to the medical sect of Methodism, of which Themison was the chief a century before Christ. Disease was considered to be due to constriction or to relaxation of the pores between the atoms of which the body and its fluids, or parts of them, were thought to be composed ; this theory has superficially quite a modern ring. Passing over more than seventeen hundred years there was another revolt against the humoral system by Lancisi, Hecquet, and Baglivi, in the iatro-physical school, a variant of the solidist conception. A reference must be made here to the iatro-physical, -mechanical, or mathematical conception of medicine, which was the effect of the discoveries of Galileo (1564–1642) and of Harvey's discovery (1616–28) of the circulation. Its leaders were Sanctorius (1561–1636), Descartes (1596–1650), Borelli (1608–79), and Archibald Pitcairne (1652–1713) of Edinburgh. This led up to the "solidism" of Cullen (1710–90), also of the northern Athens. The tenets of this antagonistic doctrine were that living processes depended upon mechanical factors, and that "movements" and the nervous system played leading parts ; the practical applications derived from this mechanistic attitude were counting the pulse and recording the body temperature. But it did not explain the processes of digestion and secretion.

### "STHENIC" AND "ASTHENIC" DISEASES

John Brown (1735–88), a pupil of Cullen, was, like Paracelsus, a rough specimen, and has been described as "disputatious and disreputable" (Allbutt). Cutting adrift from his teacher, whom he irreverently attacked, he started the Brunonian theory to the effect that disease is either sthenic, which demanded lowering and calming treatment, or asthenic, which required stimulating remedies, especially alcohol. This treatment, particularly the stimulating brand, became popular abroad, and in America Benjamin Rush of Philadelphia adopted it. The reaction against the lowering, depletory, bleeding treatment a hundred years ago was shown by the epitaph Graves (1796–1853) of Dublin proposed for himself to the effect that "he fed fevers," and by his pupil R. B. Todd (1809–60), who gave enormous quantities of alcohol to patients with fever. This change of therapeutic opinion was vigorously debated in Edinburgh in 1857, when it was suggested on the one hand that during the first thirty years of the last century there had been a gradual change from the sthenic type of disease, which required antiphlogistic treatment, to the asthenic type, in which the lowering treatment was undesirable. On the other hand, it was bluntly stated that this change of type in disease had been invented as an afterthought by way of justification for the undoubted swing of treatment from a vigorous depletory to a supporting and stimulating method.

### DISTURBED REFLEXES

The conception of reflex action, though dimly visualized by René Descartes in 1649, was not generally recognized until after 1833, when Marshall Hall independently rediscovered it, and encountered such strenuous opposition from the Royal Society that in a letter to its president he appealed "from the first half of the nineteenth century to the second." Abroad, however, it was at once welcomed as an epoch-making advance by Johannes Müller (1807–58) of Berlin, who has been described as "perhaps the greatest physiologist of all time" (Singer). In this country it eventually, after Marshall Hall's death, took a dominant position, as may be seen in John Hilton's *Rest and Pain* (1863), and in the application of reflex pain and other symptoms in obscure neurological conditions such as reflex epilepsy. Its exaggerated influence was later discounted in favour of focal sepsis, allergy, and endocrine factors. But as recently as 1921 James Mackenzie (1853–1925) insisted on his law that the vast majority of the symptoms of disease are disturbances of normal reflexes.

### ENDOCRINOLOGY

Though the conception of internal secretions in any scientific sense dates only from Claude Bernard in 1855, and their therapeutic use in practice from G. R. Murray's introduction of thyroid extract in myxoedema in 1891, organotherapy (if the term be appropriate) had been employed centuries before, and even by primitive peoples, in a purely empirical fashion, such as the heart of an enemy to annex his bravery, and later heart muscle for

cardiac diseases, brain substance for cerebral disorders, and so forth, in a manner more than imitated by the circulars of advertising chemists.

As a means of conveying impulses from one part to others of the body the chemical messengers or hormones of the endocrine glands have encroached on and to some extent taken the place of the nervous system. But the existence side by side of the hormones and the nervous system may be an example of the duplication of methods which nature has provided in the body, as a compensatory measure when one breaks down, a subject recently discussed by Barcroft in his *Features in the Architecture of Physiological Function* (1934), part of whose title I have ventured to borrow.

### FOCAL SEPSIS

The general influence of focal sepsis and dental infection as a cause of many diseases, especially arthritis and anaemia, the general recognition of which is due to the insistence of William Hunter since 1888 and to Billings of Chicago in 1913, had not been entirely overlooked. Benjamin Rush in 1803 wrote on the subject and gave a number of examples of the benefit derived from the extraction of teeth and of the disappearance of symptoms due to "acrid and putrid matters sometimes discharged from carious teeth." This is an example of the wise dictum "There is no new thing under the sun." Thus it would appear that many discoveries are after all really rediscoveries; as has been said, "If you want to be original you must not read too much." (J. K. Fowler.)

### CONSTITUTION: THE SOIL AND THE SEED

Before the rise of bacteriology as the result of the work of Pasteur and Koch in the second half of the last century, the constitution, or the condition of the "soil" on which disease developed, was a prominent medical doctrine. The demonstration by bacteriology of a microscopical agent specific for a number of infective diseases displaced the somewhat intangible conceptions of constitution and diathesis ("a persisting morbid proclivity") ; and only recently have they again been recognized as playing an important part in the causation of disease. There must obviously be a suitable soil for the development of a morbid process, and a bacterium, though essential for a given specific infection, is not itself a disease. The "seed" and the "soil," the bacterial agent and the susceptible constitution, are obviously both necessary for the development of disease. Constitution is the make-up of the body, "the aggregate of hereditary characters influenced more or less by environment, which determines the individual's reactions, successful or unsuccessful, to the stress of environment." George Draper of New York, whose definition of constitution I have just given, has shown that certain physical characters, checked by numerous anthropological measurements, are associated with a special liability to particular groups of diseases—for example, chronic nephritis, peptic ulcer, and pernicious anaemia. Constitution is connected closely with, because largely responsible for, altered reactions to outside influences, or allergy ; originally, when coined by von Pirquet in 1911, the word allergy meant a change in the reaction, whether exaggerated or diminished, but has now come to be synonymous with hypersensitiveness and the opposite of immunity. On the other hand, constitution is determined by the influence of the endocrine

### HOMOEOPATHY

S. C. F. Hahnemann (1753–1843) was originally an orthodox practitioner according to the lights of his time, but being dissatisfied with the results of treatment he independently conceived the doctrine of the treatment of disease by similars, "similia similibus currantur." This principle was the antithesis to that of contraries derived from the Greeks and consisting in the treatment of diseases by their apparent opposites—for example, fever by cold. It was a revival of the doctrine of signatures—namely, that diseases are curable by drugs which produce like effects, and had been practised in a previous century by Paracelsus, who, as Moon points out, was a believer in the curative powers of spiritual entities present in the body, whereas Hahnemann located the spiritual powers in drugs, the effects of which were considered to increase in proportion as their amount was reduced to infinitesimal quantities.

Although the professed principles and practice of homoeopathy do not appeal in the light of medical science it must in fairness be admitted that they exerted a beneficial influence in calling a halt to the indiscriminate drugging and polypharmacy practised by the apothecaries, as general practitioners of a bygone age were called, who were paid solely by the amount of pills, powders, and potions they provided, and nothing for their diagnosis and advice. Oliver Wendell Holmes, who exposed the fallacies of homoeopathy in 1842, and it may be recalled was an anatomist, gave vent eighteen years later to the forcible dictum: "I firmly believe that if the whole materia medica, as now used, could be sunk to the bottom of the sea, it would be all the better for mankind —and all the worse for the fishes."

# Scotland

### Cancer Control in South-East Scotland

The Cancer Control Organization for Edinburgh and South-East Scotland has issued, under the title of *Cancer, Edinburgh, 1935*, a report of the measures taken from March, 1934, until the end of that year, and a follow-up record which continues that published in the previous booklet last year. The present volume contains also a valuable account by Dr. A. Haddow, lecturer in bacteriology to the University of Edinburgh, of recent progress in the experimental study of cancer. Dr. Haddow deals comprehensively with the application of genetics to experimental cancer research ; the carcinogenic hydrocarbons and related substances ; the infective hypothesis of cancer causation ; the leucoses and cancer ; the physiology of growth regulation ; the application of immunity to tissue growth ; and the caryoclastic substances and tissue growth. In this way he indicates clearly the progress that is being made, particularly along those lines which attempt to describe the pathological events in terms of physiology. The questions dealt with include the possibility of defining common factors in the aetiology of cancer arising from such differing beginnings as exposure to carcinogenic hydrocarbons or arsenic, chronic *x*-ray irradiation, and prolonged local irritation ; the problem of the relative parts played by nature and nurture in the actual inception of malignancy ; and the equal importance of aiming at prevention as well as at the eradication of malignant disease. The volume also contains a statistical survey and a summary of the methods of treatment in the Royal Infirmary, Edinburgh, which has been compiled by the follow-up department in that institution. This statistical section deals with cancer in different parts of the body, and occupies the greater portion of the volume, but space has also been kept for summaries of lectures on diagnosis delivered to medical practitioners, and a report of the annual meeting of the Cancer Control Organization held last February, with an abstract of the income and expenditure for the year ending December 31st, 1934. Designed to instruct and interest the lay public as well as medical practitioners, *Cancer, Edinburgh, 1935*, is a noteworthy attempt at the unification of effort—lay and medical, hospital and area, clinical and laboratory—which the organization was established to promote.

### Perth Royal Asylum

In the annual report of James Murray's Royal Asylum, Perth, which surveys the twelve months ending March 31st, 1935, Dr. W. D. Chambers, the physician-superintendent, remarks that a change appears to be taking place in the nature or degree of mental disorders affecting the community, acute fulminating mental breakdowns becoming more rare each year. Of the 109 new patients admitted during the year, eighty made voluntary application for admission and proved amenable to treatment, while certification was only necessary for twenty-nine

patients, and none of these gave any real difficulty or displayed antagonism to admission, although some stated that they thought their detention unnecessary, uncalled-for, or illegal. Dr. Chambers attributes this relative disappearance of very acutely excited patients to modern methods of treatment, nursing, and management. Patients tend to reach hospital at an earlier stage than formerly, while even those whose entry has been delayed have had as a rule better management at home than was the custom hitherto. In the Royal Asylum there has been in recent years a growing proportion of cases of neurosis or psychoneurosis of some standing rather than acute psychosis. Dr. Chambers expresses his approval of the use in treatment of some of the drugs of the barbituric acid group, which he does not believe lead unnecessarily to addiction, suicidal tendencies, or poisoning. He adds that untreated insomnia and unalleviated pain lead to much more distress and damage than does a reasonable use in skilled hands of proved and reliable hypnotics, and he argues that to undermine unnecessarily the confidence of the public and the general practitioner in them is no useful service. The Gilgal special hospital for the less severe types of mental and nervous breakdown fully justified its existence. Dr. Chambers finds that voluntary patients tend to leave the infirmary, not unnaturally, as soon as they feel that they can carry on without constant support, and before they can be confidently classed as recovered cases. The weekly clinic is increasing in popularity, and larger numbers of difficult children are being brought.

# Ireland

### Medical Reorganization in the Irish Free State

The annual meeting of the Irish Medical Association was held on July 3rd. The President, Dr. R. J. Rowlette, stated that in each of his addresses from the chair he had stressed the importance of establishing a representative and efficient organization for the profession. That aim, he said, must be kept in view, whatever decision they reached that day as to the nature of the organization they would choose. As long as a majority, or even a considerable minority, of medical men in the country remained unattached, no association, or combination of associations, could speak with real authority. Dr. Rowlette again urged that any sectional organizations should be formed as groups in one comprehensive representative body rather than as independent organizations. The constitution of their new association provided the machinery for such grouping, as did also the draft constitution of the proposed Irish Medical Union. He was told that there had been discussion in some quarters as to the propriety of Poor Law medical officers forming an independent association of their own, but he believed that more Poor Law medical officers recognized that their position would be weakened if they were to separate themselves from their professional brethren. The strength of the profession combined was great ; that of the several sections composing it, taken separately, was weak. He would give his full strength to the recognized body of the profession, whether it was this association or another. He would take his full part in working it, and endeavour to induce his friends and neighbours who stood aloof to follow his example. Only in that way could their aims be attained—the guarding of the interests of the medical profession and of the welfare of the public.

*Constitution of Proposed New Union*

Dr. J. P. Shanley submitted a report to the meeting, in which he said that it had been unanimously agreed that an Irish Free State Medical Union should be established. This was the result of negotiations between three representatives of the Irish Medical Association—Dr. J. P. Shanley, Mr. C. J. McCauley, and Dr. P. J. O'Dowd—and five representatives of the Irish Committee of the British Medical Association—Professor T. G. Moorhead, Professor J. W. Bigger, Dr. W. W. Murphy, Dr. R. C. Peacocke, and Dr. D. A. MacErlean. The new Union united in one body the Irish Medical Association and the five Branches of the British Medical Association in the Free State, thus forming an association which should be truly representative of the medical profession. Dr. Shanley said that so far as their own affairs were concerned they were completely autonomous and independent. They would elect, and be governed by, their own central council, and there could be no outside interference whatever in domestic matters. They would receive the *British Medical Journal*, one of the leading medical journals of the world. They would have the right to attend the annual meetings of the British Medical Association, to use its library and offices in London, and to have representation on its Council and at the Annual Representative Meeting, whereas the British Medical Association would have no representation on the council of the Union. A member of the Irish Free State Union going to practise in England would automatically become a member of the British Medical Association, and since over 40 per cent. of Free State medical graduates proceeded to practise in England this was of considerable value. Reciprocally, a member of the British Medical Association settling in the Free State would automatically become a member of the Free State Medical Union. The Union would be completely responsible for its own financial, secretarial, and all other expenses. It was proposed that a division of the Union should be formed in each county, and that the divisions should be grouped to form four or five branches. In addition there would be four special groups: (1) dispensary medical officers ; (2) public health medical officers ; (3) medical officers of local authorities ; and (4) medical officers of voluntary hospitals. The government of the Union would be vested in the central council, which would consist of: (1) representatives of the branches in the proportion of one to each fifty members ; (2) representatives of the special groups ; (3) seven members of the Union elected by the annual general meeting, and five members co-opted by the central council. All would hold office for one year.

Mr. C. J. McCauley said that the new Union was to make an agreement with the British Medical Association whereby the former would act as a corporate group for Branches of the British Medical Association, provided that nothing in the articles and by-laws for corporate groups of Branches would affect the autonomy of the Union in matters of purely domestic concern. Dr. P. J. O'Dowd remarked that the need for a Dispensary Medical Officers' Association would disappear with the proposal now before them. If the medical officers did not get representation on the Irish Medical Union the fault was due to themselves. The President said the acceptance of the report by the meeting was not final. They were not definitely committed. A general meeting would have to be held for the shaping of the new Union and the winding up of the present Association. An autumn meeting had been suggested for that purpose. The report read by Dr. Shanley was unanimously adopted.

# England and Wales

### Married Women Doctors and the L.C.C.

The L.C.C., on the recommendation of its General Purposes Committee, has resolved that marriage shall no longer be a bar to the employment of full-time women doctors by the Council, except in the hospital and institutional medical service and the mental hospital service, or to the employment of non-resident part-time and sessional women doctors. It is felt that there are occupations, medical service being one of them, in which the fact that "she is married would enhance the value of an officer and increase her usefulness. Not only do the duties of both doctor and teacher call for certain personal qualities which may be thought to be enriched by marriage, but the training of those entering these professions involves in many cases considerable expenditure of public money, the fruits of which are lost to the community if the career of every woman is terminated on marriage." A

difficulty arises, however, in resident appointments. The lack of married quarters, already felt in the case of married members of the male junior medical staff at council hospitals, would be so acute in the case of women, owing to their more immediate responsibilities for their children, as to result in an impossible situation. It is therefore proposed to exclude from the scope of the concession all hospital medical staff, including medical officers in the mental hospital service, with the exception of part-time consultants and specialists. Normally an absence of seventeen weeks would be compulsory on confinement—four weeks before the expected date and thirteen weeks afterwards (or four weeks if the child does not live). It is proposed to allow half-pay only in respect of the whole period. The proposals may necessitate some amendment of the scheme under which marriage gratuities are granted out of the superannuation and provident fund.

### The Merseyside Hospitals Council

The Merseyside Hospitals Council, whose sphere of operations includes the city of Liverpool, the boroughs of Bootle, Birkenhead, and Wallasey, and parts of Lancashire and Cheshire within ten miles of Liverpool Town Hall, records in its annual report for 1934 the most successful year in its history. The total income was £161,380, an advance of £16,514 on 1933. Of this amount, over £140,000 was received by way of contributions from 6,000 employers and 289,000 employees on Merseyside. The employees make weekly contributions, mostly deducted from wages, to the "penny in the pound" fund. During the year £127,000 was distributed among the associated hospitals and medical institutions, and £16,000 was expended on ambulance, convalescent and after-care, and other auxiliary services. Lord Cozens-Hardy, the chairman of the council, states that the hospitals are increasingly recognizing the value of the central after-care service provided by the council. The number of patients recommended by the visiting medical staffs of the hospitals for convalescent service immediately following discharge from the hospital where they have received treatment has shown a considerable increase, and over 2,100 were sent to convalescent homes in 1934. A Merseyside Association of Hospital Contributors, composed of delegates from contributing establishments—corporations, industrial organizations, employees' unions—is in vigorous existence and meets three times a year. It has nine representatives on the council, and is asking for more.

### Middlesex Hospital Medical School Centenary

The centenary of the Middlesex Hospital Medical School will be celebrated on Wednesday, July 24th. At 3 p.m. the Earl of Athlone, Chancellor of the University of London, will distribute prizes gained by students, and at 9 p.m. H.R.H. Prince Arthur of Connaught and Mr. S. A. Courtauld will receive the guests at a scientific evening. Both ceremonies will be held at the Middlesex Hospital. The students' centenary ball will take place at the Dorchester Hotel on the evening of July 25th. The programme of arrangements will be available in due course. The "refresher course" will be held as usual during the last few days of September and the annual dinner early in October.

### Health Centre on Becontree Housing Estate

The completion of the London County Council housing estate at Becontree, in Essex, which now has a population of 112,000, is to be signalized by a ceremonial opening of Parsloes Park, a central open space of about 118 acres. The number of dwellings erected at Becontree is 25,048, varying from two-roomed flats to six-roomed houses. All dwellings contain scullery and bath, and each of the houses has a garden at the front and back. The weekly rents range from 8s. 9d. to 23s. 2d. Provision has been made for fourteen doctors' houses on the estate and for three clinics. An out-patient department of the King George Hospital at Ilford has been established on the estate, with facilities for the treatment of accidents and other casualties. The site of this department, known as Becontree Health Centre and Out-patients' Department, has been leased by the L.C.C. to the hospital authorities for 999 years, and a contribution of £6,500 has been made by the Council towards the cost of building. The department is in direct communication with the main hospital, and a staff of doctors, nurses, and masseurs visit daily. The Council has also made an additional contribution of £15,000 to the capital cost of the main hospital building, arrangements being made for special consideration to be given to applicants from the estate who require in-patient treatment.

# Reports of Societies

## DIPHTHERIAL PARALYSIS

At a meeting of the Fever Hospital Medical Service Group of the Society of Medical Officers of Health held on June 28th, with Dr. BANKS, the president, in the chair, a paper on "Observations on the Pathogenesis of Diphtherial Paralysis" was read by Dr. G. RONALDSON (South-Eastern L.C.C. Hospital).

Dr. Ronaldson said that the pathogenesis of diphtherial paralysis was a subject on which there was no consensus of opinion. Exponents of a "central" conception maintained that many points in the symptomatology admitted of no other explanation than an affection of the central nervous system, while supporters of the peripheral hypothesis were equally convinced that the paretic manifestations were the result of toxic action on the peripheral nerves. There were variants of both theories, but whether a central or peripheral view was favoured, the fact that analogous features existed between diphtheria and tetanus would be generally admitted. A brief reference to the pathology of tetanus was helpful in comprehending a view held by many leading French clinicians—namely, that diphtherial paralysis was of the nature of an ascending neuritis. In the ascending form of tetanus, the toxin was supposed to travel along the nerves from the infective focus to the central nervous system, and the first manifestations appeared in the immediate neighbourhood of the wound. The French theory of the pathogeny of diphtherial paralysis was essentially similar: it was initially an ascending nerve transport process with local symptoms of central origin. A theory which was more familiar to English readers was that of Walshe, who sought to adapt the Meyer and Ransom tetanus classification (local, specific, and general) to the nervous phenomena of diphtheria. The local form was exemplified by paresis of the palate in faucial cases, and this was alleged to be the result of toxin ascending from the fauces to the central nervous system by the perineural lymphatics. The specific form (oculomotor palsy) was central in origin, and the generalized (polyneuritis) "sometimes central and sometimes peripheral," but the toxin in the latter types was said to be carried by the blood. The speaker then summarized the chief arguments advanced in favour of nerve transport hypotheses in general. The first was the local factor, but it had to be remembered that this did not necessarily entail a central lesion, as a certain connexion between site of infection and initial palsy was mentioned by Trousseau and admitted by all schools of thought. Another of the arguments was that palatal palsy involved toxic spread from the fauces to the nucleus ambiguus, and consequently this form of paresis was only met with in faucial cases. Other arguments were the "time lost" factor (de Lavergne's "temps perdu"), which was believed to explain the asymptomatic period, the supposition being that the toxin was then slowly travelling along the nerves; and the assumption that the longer nerves of larger animals accounted for an alleged longer incubation period. Instances of accidental injection of diphtheria toxin had thrown some light on these questions, and a number of these happenings were referred to as "Series A, B, C, and D," which had occurred in certain foreign countries. The paretic sequelae were almost identical with those of natural diphtheria—for

example, in Series A, paresis of accommodation occurred in the third week, palatal paresis in the third to fourth week, and peripheral neuritis in the sixth to ninth week. As these were virtually examples of artificially produced paresis in the human subject, and there could be no question of a coexisting faucial lesion, the occurrence of palatal paresis definitely refuted the argument previously mentioned. In the words of the observers of the Series C cases, "Extensive observations on several hundreds of cases have revealed to us paralysis of the palate and pharynx with the same frequency following injection into a point, however far from the pharynx."

In some cases an injection in the gluteal region had occasioned an acute neuritis with positive Lasègue's sign and paresis of the muscles supplied by the peroneal branch of the sciatic. This "local" condition was quite different from the paresis of natural diphtheria, and its counterpart must be sought in the results of animal experiment where injections into the sciatic nerve had produced a comparable lesion. The diphtheria toxin experiments of H. Meyer, Babboneix, and others were then described and commented on. The speaker's conclusion was that the results of such experiments could not be dissociated from an inflammatory element which was absent in the naturally occurring disease, and that the ascending process, which was often referred to as characteristic, had not been satisfactorily demonstrated. The work of Defrise, Jossifow, and other anatomists had disposed of the contention that the perineural lymphatics acted as pathways for toxin carriage; they had traced these lymphatics to the neighbouring lymph glands. The important tetanus researches of Abel and his associates had told us that when properly graded doses were employed the length of the latent period was the same in large or small animals. The local sensory loss which was an occasional sequel of the Schick test had demonstrated the possibility of local action with a "time lost" factor entirely independent of any nerve travel. The nerve transport theory remained unproved, and the arguments adduced in its support had no validity. The speaker then gave his reasons for asserting that a purely peripheral conception was not altogether in accordance with the known facts, though he contrasted the very constant evidence of peripheral nerve changes with the meagre and inconstant findings in the central nervous system. Extended histopathological investigations of the central nervous system in diphtheria should be carried out with modern technique; negative findings in a small series of cases did not prove the correctness of any conception.

Such rare symptoms as trismus, athetosis, convulsions, and transient hemiplegia were seen in the Series B cases, and the speaker had published similar examples in cases of natural diphtheria. These rare phenomena were of no great clinical significance, but they showed the possibility of haematogenous involvement of the central nervous system, and their occurrence proved that the "blood-brain barrier" was not absolutely impermeable to diphtheria toxin. The case for haematogenous central involvement was really dependent on clinical inferences, and a number of suggestive clinical observations were mentioned. Various types of impairment of the palate were described. The only truly local form of diphtheritic paralysis was the precocious variety, and its pathological basis was probably a myositis which was the result of toxic saturation. What had been called the local sign or factor was quite different, and the simple and most satisfactory explanation was a process of toxic diffusion. All confusion would be obviated if this type were referred to as "regional." A tentative classification of the symptoms of diphtherial paresis was given, and various associated nervous phenomena were referred to under the heading of the "supplementary category." This included the rare cerebral symptoms, the vascular phenomena—for example, hemiplegia, and functional affections of vision which were the result of circulatory impairment. Dr. Ronaldson concluded his remarks with the hope that his critical analysis would furnish a basis for discussion, and he suggested that if interest could be stimulated in the subject more activity might be met with in a field which had recently been somewhat neglected both by English research workers and by clinicians.

Dr. F. M. R. WALSHE confined his remarks to a consideration of his own clinical observations. During the war chance had given him the opportunity of seeing some 100 cases of diphtheritic paralysis following faucial diphtheria, and some sixty cases following extrafaucial diphtheria (cutaneous and wound infections). Of the faucial cases over 90 per cent. of those showing nervous manifestations had palatal paralysis as an early sign. Of the extrafaucial cases, none showed palatal palsy, but a third had an early palsy related anatomically to the seat of the infective focus. In addition to these there were two cases with infected cutaneous lesions in whom there had been palatal palsy in the absence of any history of sore throat. But both of these had come under observation several weeks after the onset of their symptoms, and the absence of positive throat findings at this juncture did not exclude its probable early presence. Similarly, the absence of a history of sore throat was not conclusive, because all were familiar with typical cases of post-diphtheritic paralysis in patients who gave no history of sore throat. He had seen such cases himself. It therefore appeared to him that the only reasonable interpretation of these 160 observations was that the initial palsy in diphtheritic paralysis was of the nature of an ascending neural intoxication from the site of the infective focus. It was impossible to disregard the mass of evidence in favour of this view. The later-developing multiple neuritis was probably a blood-borne intoxication and was manifestly the result of a peripheral lesion, whereas the initial local palsy was almost certainly central in origin. A study of the literature of extrafaucial diphtheria from the point of view of its nervous complications was disappointing, because the clinical descriptions were usually grossly inadequate; but, even so, the literature contained numerous case records which supported the view he had put forward and—as far as natural diphtheria was concerned—no cogent evidence against it. In any case, any assessment of the nature of diphtheritic paralysis required as a background a working knowledge of other intoxications and diseases of the nervous system, and this was rarely forthcoming from those who wrote upon the subject.

Dr. M. MITMAN (North-Eastern L.C.C. Hospital) maintained that diphtheritic paralyses depended upon lesions of the central nervous system. He believed that the rapidity of onset and the extent of paralyses varied with the extent of the oro-pharyngeal membrane. The fixation of toxin to nervous tissue occurred early in the disease, and, once fixed, antitoxin was incapable of affecting it. The latent period before the onset of paralyses was occupied by the time taken for transportation along nerves and affection of cranial nuclei. Those nuclei nearest the site of entry of toxin into the central nervous system were the earliest and most frequently and severely affected. The common sequence of paralyses—"the march of paralyses"—depended upon the time taken for toxin to travel inside the central nervous system from one nucleus to another. Once the toxin was disseminated any nuclei might be affected, although the toxin appeared to exert some selective affinity. All the paralyses could be explained on this hypothesis. The so-called late cardiac failure he also attributed to a central (bulbar) involvement. In support of this view he drew analogies with other diseases of the central nervous system: tetanus, acute poliomyelitis, and lead palsy. He pointed out that histological changes had been described in the central nervous system as long ago as 1878, and that changes were present in the cells, protein, and sugar content of the cerebro-spinal fluid. To support its contention of a bulbar origin for late cardiac failure he stated that the electrocardiogram and sugar tolerance curves might be normal in this condition. He also quoted recent experimental work on diphtheritic paralyses in animals. Finally, he brought forward some original clinical observations on the march of paralyses and on unilateral paralyses to support his argument. He mentioned a case of severe diphtheria in which diaphragmatic paralysis was followed by paralysis of the upper intercostals and then of the

lower. This suggested to him a progression of the process downwards in the cervical cord. He also said that he had seen unilateral paralysis of the palate, eye, or other structures appearing on the side of the original faucial membrane. He held that this was the rule, and depended upon a nerve transportation of toxin to one side of the central nervous system. If the faucial affection was bilateral the unilateral paralysis would appear on the side which had had the more extensive membrane. Sometimes paralysis occurred on one side before the similar structure on the other side was affected. The side of the earlier paralysis was the side of the more extensive membrane. If these findings were accurate they could only be explained by a central nervous lesion.

## FIRST AID IN CHEMICAL GAS WARFARE

An address on chemical gas warfare was delivered to the Kensington Division of the British Medical Association at Princess Louise Hospital, Kensington, on July 12th by Dr. T. SKENE KEITH. Dr. W. G. BENDLE presided.

Dr. Skene Keith began with the remark that the subject was so new that "most of the practical work was theoretical." Modern history on the subject started with the use of chlorine gas in the late war. There were many pious resolutions against poison gases, but with the advent of war these too readily went by the board, and of course each nation would say the other side began it. On the humanitarian side he doubted whether there was much more to be said against poisonous gas than against high-explosive shell, except that the latter had the advantage that the victim probably died at once, while with gas he might linger.

### PRINCIPAL TYPES OF GASES

Lachrymatory gases were the simplest. Their effect did not last, and if the patient were removed from the area he recovered within twelve hours, probably sooner, though of course if a container emptied itself straight under his nose it would kill him. The military value of the gas was that enemy troops might be caught unprepared and blinded, or be forced to live in their gas masks for days on end if a steady trickle of lachrymatory shells could be kept going. Irritants such as chlorine were very incapacitating, not for a few hours, but for days or weeks; and they were likely to be fatal, though the fatal case would usually die within forty-eight hours. Smokes, mostly arsenical, had an immense application in the field, but not so much in war on civil populations. Their effect was extremely depressing. One D.M.S. who allowed himself to be "smoked" described it as the most dreadful depression he had ever experienced. The trained and unsurprised person, however, was less distressed than others. Of the chemical gases, mustard was the best known. It had no chemical relationship with the condiment, but in 1917, when it first came over, a sample was said to be like mustard. It had the peculiarity that one could smell it at once, but later, although it continued, one could no longer smell it until the respiratory passages were cleared.

From the point of view of the civil population it seemed to Dr. Keith that blistering agents were the most likely ones to be encountered. For one thing, they were fairly easily distributed, and lasted a very long time. Lachrymatory gases were here and off again unless there was a continual rain of tear-gas shells. A very little breeze would blow a chlorine cloud away, and it was fairly rapidly absorbed by anything moist. Smokes also did not persist for any length of time. On the other hand, mustard was not only potent from the first, but a well-drenched area might remain dangerous for weeks. If it was breathed it produced severe burns; on the skin it produced anything from an erythema to profuse blisters, which, though superficial, were extremely indolent.

What was the object of chemical warfare on the civil population? The popular press wrote of the blanketing of whole towns. He did not think that was possible, and certainly it would be uneconomical from an enemy's point of view. The great value of gas in the eyes of an enemy was to produce a panic, which might be done through a relatively small number of stricken individuals. It had to be remembered that gas, dropped or sprayed from a plane, was not likely to be used alone; it would be combined with incendiary and high-explosive bombs. Also new combinations or sequences of gases might be sprung upon the world.

### TREATMENT OF CASUALTIES

The treatment of those affected with tear gas was to wash out the mouth and eyes, water being probably as good as anything for the purpose. With chlorine gas the treatment should be to reduce respiratory exchange, and even a slight case should be regarded as a lying-in case for from twenty-four to forty-eight hours. Oxygen should be given, and then more rest. A light and handy mask was available, and the plan was to deliver up to a maximum of three litres a minute. The recovered chlorine patient had practically no resultant disability. On the other hand, those affected by mustard gas got permanent scarring and disability which might go on to severe lung conditions. The treatment for smokes was to wash eyes and mouth and get the patient out of the area. Incidentally he was much worse just after being got out; if depressed before, he was suicidal then.

In dealing with the blistering agents, to get rid of contaminated clothing was of the utmost importance. Mustard gas would get through ordinary rubber gloves in about half an hour. It would go through anything in the least porous—wool, wood, and cement, except the very best. It would not penetrate metals, nor would it go through canvas soaked in linseed oil. The stock antidote was bleaching-powder solution of various types and mixtures. The poison could be washed off or dissolved off, but the solvent was then contaminated. Dr. Keith visualized a first-aid station in which the attendants would wear linseed-oil suits, changed every two hours to permit of ventilation, and there would be receiving rooms, dressing rooms (from which all clothing and belongings would be sent away for decontamination), and bath houses. As for general protection, certain principles had been set out in a circular issued to local authorities by the Government only a day or two previously.[1] It was too big a proposition to guarantee protection to the general civil population, though a certain number engaged on essential work would need to have absolute protection. On the other hand, much might be done by getting a maximum number of people into rooms at a certain level above the ground and sealed against gas, where they might have to remain for many hours. The psychological aspects of the problem were of extreme importance.

Dr. ALEXANDER BALDIE, after mentioning that his recollection of the war was that chlorine was the gas most capable of inspiring terror, expressed some scepticism as to whether mustard gas from aeroplanes was likely to have the terrible capacity for inflicting harm that had been suggested. He also submitted that all this talk about dug-outs and shelters and huddling people into gas-sealed rooms was fundamentally wrong. While taking precautions which seemed natural and reasonable, the thing surely to aim at was what was inculcated in the late war—to act quietly, normally, and with as much detachment as was humanly possible.

Dr. HUGH SUTHERLAND also pointed out that eleven million people in this country had recently balloted for the League of Nations, and that under the Geneva protocol signed by Great Britain and other countries the use of gas in war was prohibited. In these circumstances it seemed to him that the thing for doctors and scientists to do was not to prepare for living in linseed-oil suits trying to save one per cent. of the people in the vicinity of a heavy gas attack, but to combine with the various organizations and societies which were doing their best to preserve world peace rather than to consent, in the words of a writer of the Society of Friends, to "the heathen satisfaction of reciprocal massacre."

Dr. SKENE KEITH said that those were also his own feelings; he had been concerned only to put forward a point of view.

[1] *British Medical Journal*, July 13th, 1935, p. 72.

## THE TREATMENT OF ADDICTIONS

Dr. WILLIAM BROWN, Wilde Reader in Mental Philosophy at Oxford, who succeeded Sir Humphry Rolleston in the chair of the Society for the Study of Inebriety on July 9th, devoted his brief presidential address to a discussion of psychology in relation to addiction. He differentiated between alcohol and drug addictions, pointing out that alcohol had relatively a normal side, whereas drugs were used for medicinal purposes only. No doubt alcohol was often taken as a means of escape from the harshness of reality, but a very frequent history of the alcoholic was simply convivial indulgence; he had drunk out of good fellowship and had acquired a certain addiction. In these cases there was no such deep-seated psychological factor as was implied when alcohol or drugs were taken as a means of escape. The patient would deny that he had a craving—indeed, that was true of the more complicated cases also—and would say only that he felt miserable without alcohol, and took it to make himself normal again. In the case of a man who was running away from his difficulties the psychological method of treatment was to get at his difficulties, analyse him, and go back over his past, discovering what traits had made him susceptible to temptation and weakened his resistance. With the man who had become addicted owing to his sociable nature there was no problem of his past life to be unravelled; it was simply a question of strengthening his will. Dr. Brown had found that suggestion treatment, applied within the framework of analysis and in a rational way, could train and strengthen the will and even help in the control of the involuntary or autonomic nervous system. The patient should be encouraged to lie on a couch with the muscles relaxed, breathing heavily and deeply, in which state suggestions could be given him by the doctor. This was not the repeating of incantations or hypnotism, which was a temporary and rather shallow method, but it was a method of subwaking suggestion, employed after the person had talked out his life in a general way. By this means his "imagination of success" could be stimulated, and in his passive state these suggestions took deep effect. After an analysis varying in extent according to the degree and kind of addiction, this suggestion treatment was likely to prove useful as a means of training the will and controlling the imagination, and the patient might be taught to use auto-suggestion as a further direct means of will training. It was necessary in these cases to cut off alcohol or the drug completely, not tail it off, and by suggestion the subject was freed from deprivation symptoms and the danger of relapse was avoided. The case was more difficult when it was one of morphine or cocaine addiction, and here generally institutional treatment was necessary.

At the same meeting Dr. S. W. PATTERSON of Ruthin Castle discussed addiction to gland extracts. In part his address covered the ground of his paper in the *British Medical Journal* of July 7th, 1934 (page 6), in which he dealt with thyroid addiction. On this later occasion he also touched on the adrenaline habit, which might be acquired by asthmatics, and he thought physicians prescribing adrenaline in asthma should be aware of the psychological state of their patients, and supervise and retain control. With regard to other endocrine extracts, no large number of cases of abuse of insulin appeared to have arisen, but in the case of gonads there had been far-reaching psychological repercussions. Most of the cases he quoted, however, relating to all these preparations, were cases of abuse rather than of addiction. Perhaps the French term *manie* better fitted the description. There were also cases, associated with masochism or self-torture, in which it was not so much the drug as the underlying puncture which was the important matter; the term "kentromania" had been suggested. But there were other cases in which an endocrine gland habit was comparable with drug addiction. There were difficulties in placing these preparations on the list of dangerous drugs, and it was the more incumbent on medical men to apply an appropriate supervision and control to their use by patients.

# CORRESPONDENCE

## Miners' Nystagmus

SIR,—May I, as a member of the Miners' Nystagmus Committee of the Medical Research Council, be allowed to express my agreement with the arguments set forth in Messrs. Wellwood Ferguson and Herbert Caiger's paper (*Supplement*, July 13th)? While personally convinced that the primary cause of the trouble is deficient illumination, and that greater efforts than have hitherto been made should be directed to the improvement of illumination in mines, I am yet of opinion that the chief cause of prolonged disablement, and consequent compensation, is the psychopathic condition associated with the disease and immeasurably increased by the boredom and anxieties associated with indefinitely prolonged unemployment. This is a state of affairs which is met with in other cases of industrial incapacity; but miners' nystagmus is the most glaring example, and if an efficient method of dealing with it could be established the beneficial results would extend far beyond this relatively limited domain.—I am, etc.,

London, W.1, July 13th. J. HERBERT PARSONS.

## The Future of Irradiation Treatment of Cancer

SIR,—Two great scourges of the people, tuberculosis and venereal disease, have been dealt with in the grand manner. With the help, and perhaps at the prompting, of clear-sighted laymen, treatment has been made effective in the one case by eliminating social restraints on access, and in the other by providing, throughout the country, sanatoria adapted to special need. The third—and perhaps the most serious of all the great scourges—has hitherto defined treatment for well-known reasons. To-day it is not impossible to treat cases of cancer that have passed the reasonable operative stage, and the numbers in the community for whom something should be done is therefore far greater than formerly. Discounting the optimism of enthusiasts, it is becoming realized even by the sober-minded among those with extensive experience of irradiation work that modern methods have attained a degree of success which warrants a really hopeful outlook for palliation, prolongation of life, and, occasionally, cure.

These "modern methods" involve lengthy periods of treatment—many weeks at a time, not infrequently repeated at intervals. This it was that underlay the words of Dr. Chambers and Professor Russ when they wrote recently in your columns "it looks as though *x*-ray [and radium] treatment in the future may have to be organized on the lines of sanatorium treatment." There is good reason to believe they are right, and since such an organization would take some years to bring into being it behoves the disinterested to lay down the machinery, provide the power, and then stand ready at the starting switch.

The example of Sweden, where complete centralization of control has proved successful, suggests that in our different circumstances, where orderly devolution has already begun, the means might be found of reconciling the conflicting claims of those blessed who are in possession of the field, of conciliating those who may well cry "A plague on all your commissions and committees, however national"; for after all this is a matter in which the primary interest is not that of the experts but of the innumerable patients in all quarters of the community. There are long waiting lists for those to whom every minute is precious, and for those whose lingering sufferings need comfort, nursing, and professional care unrestricted

by the thought of cost, and indeterminate as to time. No one with daily knowledge of these things can say that his withers are unwrung.

Let research go on by all means—let this centre say "we will take such and such a type of case, and of that type we will take only this man and that woman"; but the authoritative bodies concerned with the public health and the public welfare might well bestir themselves against the day of a public demand for such facilities as are here indicated. There may perhaps be some unoccupied beds among those provided for tuberculosis, as at Northwood, and some sanatoria might be turned over to cancer. At any rate, the provision should be on a scale which no properly balanced university—that is, "teaching"—hospital can properly afford, either as to accommodation or cost.—I am, etc.,

London, W.1. E. ROCK CARLING.

## Acclimatization to Hot Environments

SIR,—In dealing with the effects of climate upon the human organism, the cooler climates are usually accepted as being the normal for man. Is this not inaccurate? Was man not adapted in the first place to a warm environment? If this had not been so, his descendants in cooler regions would not acclimatize now to tropical climates. His struggle to advance has been aided by his battle with the colder climates in which he has gained in physical and mental energy. Natural man at the present day is to be found mainly in tropical regions. The more civilized races in cooler climates still keep their skin temperatures at a tropical level by wearing clothes and by other artificial aids—for example, hot-water pipes. When considering problems of acclimatization is it not more reasonable, from a scientific point of view, to accept the warmer climates as the standard and to investigate how adaptation to colder climates has taken place? With his sweat glands and his freely exposed skin, man is already well adapted for a warm environment if during the heat of the day he reduces his body heat production to a minimum by slacking off in pace or by resting.

A great deal of attention has been directed to the basal metabolism in different climates and races, and there is some balance of evidence in favour of a slight decrease (five to ten per cent.) both in natives and in white races resident in the Tropics when compared with metabolism in cooler climates. Such a slight and by no means constant difference cannot be a main factor in adaptation to warmer regions; the main point is that in these regions the total metabolism, including heat production from food and muscular work, is greatly reduced during the hotter hours of the day; activity is indulged in mainly during the cooler periods. Tolerance of a hot climate thus concerns a return towards the routine and scanty clothing of natural man rather than any mysterious physiological mechanism observable only in the Tropics.

It is the sudden exposure to extremes of heat and of cold before habit has been changed which strains the various well-known mechanisms of the body. For example, in a cool climate the sweat glands are working more or less at a minimum, and a sudden change to extreme heat cannot be met at once by the necessary superactivity of these glands unless they have been kept active by frequent Turkish baths or otherwise. It is such change-over of the ordinary mechanisms which underlies adaptation to various climates. The recent high temperature in London, owing to its suddenness, caused discomfort even to some who had spent years in a tropical zone. If desired, houses could be kept cooler by circulating cold water through pipes embedded in the walls. It is not a question of want of knowledge in ventilation, but of finance.

Most of the above points have been recorded by authorities in older standard works, but their importance has been swamped in more recent times by the greater attention paid to newer phenomena, certainly of great scientific interest, but of minor importace in acclimatization. I hope this is sufficient apology for any reiteration.—I am, etc.,

London, N.W.3, July 11th. J. ARGYLL CAMPBELL.

## Injection of Varicose Veins

SIR,—May I be allowed to congratulate the three authors who, in the *Journal* of July 13th, published a most painstaking report upon the late results of injection treatment in varicose veins.

Personally, I have always preferred quinine urethane to sodium salicylate as a sclerosing agent, but my observations and results in relation to several thousands of injections classified since 1925 conform fairly closely with those of your contributors. Strangely enough I have noticed very few true instances of recanalization in my own clinic, and have been led to believe that this annoying type of recurrence was largely eliminated by the intensity of the intimal reaction to quinine.

During 1927 I undertook ambulatory ligation of the internal saphenous vein in several cases, one of which was complicated by the development of a pulmonary embolism, fortunately without a fatal issue. On the whole I feel that the risk which attaches to this procedure outbalances its small benefit.

For years I have found that large varices which refuse to react to a succession of intravenous injections will promptly sclerose in response to small paravenous injections. The needle is introduced into the vein and a little blood is aspirated. The point is then inserted more deeply until it is estimated to be at least one millimetre deep to the inner wall, when three minims of quinine urethane are injected. I have never had a case of quinine necrosis following this technique, and I have found the results uniformly satisfactory.

I am particularly delighted to find that the authors are whole-heartedly in favour of an Unna's paste dressing in cases of ulceration. I can completely confirm their observation that elastic adhesive bandages do not maintain adequate pressure, and that they tend to injure or irritate the skin. In my own experience they frequently produce a most painful and extensive type of dermatitis.

In the *British Medical Journal* of October 4th, 1930, I published in conjunction with Miss K. M. Cellan-Jones a formula for a non-elastic paste-bandage, which possesses all the advantages of the Unna stocking but is much more easily applied, and yields, in my opinion, more satisfactory results than any other application. I would be grateful to hear from the authors of the paper whether they have tested this bandage and, if not, whether they would be willing to compare its efficacy with that of Unna's paste dressings.—I am, etc.,

C. J. CELLAN-JONES, M.D., F.R.C.S.Ed.

Swansea, July 13th.

## Recovery after Cardiac Arrest

SIR,—Mr. R. A. Grant is to be congratulated upon the happy outcome of the case of cardiac arrest during operation described in your last issue. I notice that two injections of 5 c.cm. 1 in 1,000 adrenaline were given into the wall or cavity of the left ventricle. May I point out for the guidance of those in this unpleasant predicament that it has been conclusively proved (by A. S. Hyman) that the auricles are more sensitive to stimulation than the ventricles. Simple auricular puncture usually results in cardiac motion: extrasystoles followed by normal

rhythm. If the preceding period of anoxaemia has been prolonged, however, arrhythmia may develop into ventricular fibrillation.

Special curved needles 5 inches long are now available for auricular puncture, and are inserted through the third right intercostal space close to the sternum and directed downwards and towards the mid-line.—I am, etc.,

London, July 13th. C. LANGTON HEWER.

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SIR,—Mr. R. A. Grant is to be congratulated upon his case of recovery after prompt injection of adrenaline into the chamber of the ventricle (July 13th, p. 64). Whilst giving anaesthetics as a hospital resident about ten years ago I dealt with two cases in this way, the first unsuccessfully. In the second case, in order to make as certain as possible that the needle had gone through the muscle, blood was withdrawn into the syringe before injection of the adrenaline. It may be, also, that the stimulus of the needle produces contraction of the cardiac muscle.—I am, etc.,

W. B. MCKELVIE,
Manchester, July 15th. M.D., Ch.M., F.R.C.S.E., D.L.O.

*** In an annotation in the *Journal* of March 23rd (p. 593) we wrote: "On these grounds there is something to be said for attempting to restart contractions by puncturing the right auricle, the chamber in which the contraction of the whole heart normally originates."

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## Serum Treatment in Puerperal Septicaemia

SIR,—Mr. Harold Balme, in your issue of July 13th (p. 84), records a case of puerperal fever observed by both of us, in which recovery followed a heavy invasion of the blood stream—300 streptococci per c.cm. He is convinced that the recovery was due to the serum he had administered before sending the patient to this hospital. But he omits the rather important fact that the blood culture showing this high streptococcal count was obtained *eleven days after the last dose of serum*. Are we to suppose that the serum, which had failed to control the infective process during the preceding seven days (blood culture three times positive, and increasing high fever, during that period), suddenly became operative on the eleventh day? I prefer to confess quite frankly that I do not know what was responsible for checking the infective process, but I was not very surprised to see it checked, because, during the previous twelve months, I had watched eleven out of fifteen cases of proven septicaemia (blood culture positive) recover *without any serum treatment* (see *Lancet*, May 11th, p. 1085).

Dr. Selwood Lindsay, in his paper in the *British Medical Journal* of July 6th (p. 6), offers us two figures in support of his many dogmatic statements. He tells us that eighty-three patients received anti-scarlatinal serum during the twelve months ending March 31st, 1935, and that 81.92 per cent. of them recovered. He does not tell us the essential point about these cases—namely, how many of them were infected by haemolytic streptococci. Reference to my paper will show that in a much larger series of Queen Charlotte's cases (346) extending over four years, *all of whom were definitely infected by haemolytic streptococci*, but who did not receive any serum, the recovery rate was almost as high (77.7 per cent.) as in Dr. Lindsay's series. Taking *all* the cases admitted to Queen Charlotte's and untreated by serum, regardless of whether they were infected by haemolytic streptococci or not, the recovery rate was 88.4 per cent. The other figure quoted by Dr. Lindsay—namely, a recovery rate of 95.45 per cent. in a series of twenty-two cases of "puerperal haemolytic streptococcal sepsis"—is admittedly considerably higher than that for the 346 Queen Charlotte's cases just quoted. But the difference is not at all surprising in view of Dr. Lindsay's statement that the majority of the twenty-two cases had become infected during an epidemic in the infirmary, and were therefore "immediately accessible to prompt treatment." Our experience at Queen Charlotte's certainly indicates that infections by haemolytic streptococci following normal delivery and treated from the very beginning under the best conditions in hospital (even without serum) are much more likely to remain localized to the genital tract than infections associated with injury following instrumental or difficult labour and not treated in hospital from the beginning. *If they do remain thus localized—even if they are infected by haemolytic streptococci—their recovery rate is approximately 100 per cent.*

For these reasons I do not think that Dr. Lindsay's evidence, as given, helps us to form an opinion as to whether the administration of serum played any part in the recovery of his patients. Nor does it suggest that the serum was actually harmful. It is not at all unlikely that certain sera will be found to exert an unfavourable effect while others do not. That is, indeed, what the mouse experiments of Penfold and Butler (*Med. Journ. Australia*, 1932, i, 717) seem to show.—I am, etc.,

LEONARD COLEBROOK.
Queen Charlotte's Maternity Hospital, Research Laboratories, London, W.6, July 15th.

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## Para-nitrophenol in Fungus Diseases of the Skin

SIR,—The letter of Dr. Madge Robertson on the above subject in the *Journal* of June 29th (p. 1339) should be of considerable interest to practitioners in tropical localities. My own experience of the efficacy of para-nitrophenol has been in cases of so-called "Hong-Kong foot." It has proved most successful. My original information about it was from a patient connected with the chemical side of the rubber industry in Malaya. He had a very troublesome infection of the skin of both feet, quite typical of "Hong-Kong foot"; he had seen many doctors and carried out varied forms of treatment with no success, so that on his own idea he soaked his feet daily for about a quarter of an hour to half an hour in a solution of para-nitrophenol. He stated that the condition entirely cleared up within a month. He recommended the treatment to a man and wife home on leave from Malaya, who were both suffering from the same trouble, and again the treatment was quite successful. In my own practice it has also proved successful in the few cases in which I have tried it. A daily foot bath for about twenty minutes for three or four weeks seems sufficient. It is clean, staining of the skin is slight, if it occurs at all, and can easily be removed if required. The chemical is prepared by the Imperial Chemical Industries. Recently it also proved very efficient in a case of similar infection of the hands.—I am, etc.,

London, E.C.4, July 15th. O. MARRIOTT.

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## Operation for Mastoid Disease

SIR,—I am not criticizing Mr. D. A. Crow's letter in the *Journal* of June 15th, dealing with Mr. Salkeld's published notes of ninety-one cases of the cortical mastoid operation. I must congratulate Mr. Crow on his admission that he operated on 200 cases of mastoid disease before he realized the importance of non-precipitancy in dealing with acute pyogenic infections. It proves, if proof is necessary, how important it is that one should have a wide experience of general medicine before settling down as a specialist.

I had the good fortune during my curriculum to be taught by one of the great pathologists of his day, Professor David Hamilton of Aberdeen University, so that I have been able to realize that when the host is attacked by micro-organisms the fixed tissue cells and the blood are the lines of defence set up by the individual; recovery will depend on their proper mobilization. The great guide should be the temperature and pulse.

There are so many variants met with in mastoid disease that the problem of when to operate is not an easy one. Last year I did over 150 mastoid operations. During the last eighteen years I have operated on some 2,000 cases, and I can assure both Mr. Crow and Mr. Salkeld that there have been occasions when very serious thought had to be exercised as to whether to delay or operate, especially in very young children. The deep-seated mastoid antrum always requires serious consideration. The condition of the external auditory meatus and its relation to the membrana tympani is a very important guide in these cases. How can you tell that you are faced with a deep-seated antrum? That is another question, and I shall be pleased to answer it.—I am, etc.,

J. ALDINGTON GIBB,
Senior Aural Surgeon, Kent County Ophthalmic and Aural Hospital.

Maidstone, July 13th.

## Diagnosis of Intussusception

SIR,—I was interested in Professor Rendle Short's recent paper on "Abdominal Pain in Children" (June 8th, p. 1157), and venture to report the following two cases as showing how difficult it is to be dogmatic in medicine.

*Case 1.*—A boy of 4, well nourished, to whom I was called on the evening of May 31st, his mother giving a history of intermittent abdominal pain since the morning, with no bowel action during that day. His pulse and temperature were normal. On the previous day he had been eating raw gooseberries. On palpating the abdomen for a second I thought I felt an intussusception in the region of the hepatic flexure, with a doubtful *signe de Dance*. Further prolonged palpation failed to confirm this, although he had further attacks of pain while I was there. In view of his age I came to the conclusion that I must have imagined the tumour, and that the gooseberries were causing colicky pains. Next morning I found him much better, but still getting occasional slight pains. The following evening I was called to him again—that is, just forty-eight hours after first seeing him. The mother stated that for the last hour he had been screaming with pain, with intermissions of about three minutes. His pulse was 96 and his temperature normal. This time there was no doubt about the sausage-shaped tumour, extending from the hepatic flexure to about the mid-line. Removed to hospital, a glycerin enema gave a very large greenish, but otherwise normal, motion, without trace of blood or mucus, after which an examining finger failed also to reveal blood or mucus. The intussusception could not be felt per rectum. Laparotomy revealed an intussusception of the colon reaching nearly to the splenic flexure. The last two inches were not easy to reduce, and as I did so the tip of an enormously oedematous appendix came into view. It was not actively inflamed, but it appeared wiser to remove it. He has done well, and is now convalescent.

The points about this case are, first, the age—4—whereas one hardly expects to find it after 2 in children. (Romanis and Mitchiner state: "This variety almost always occurs in babies under 2 years old.") Secondly, it had almost undoubtedly existed for over forty-eight hours. I notice that Professor Short stated that "twenty-four hours' delay in making a diagnosis means death." This is probably true in babies of 18 months and under, who would stand shock much worse than a boy of 4. I am quite convinced, in view of subsequent events, that I did palpate a tumour at the first visit (though not proud to admit it), and I do not believe that I reduced it in doing so. This does occasionally occur, for I well remember the late Mr. R. P. Rowlands palpating one under an anaesthetic at Guy's Hospital, and suddenly saying, "It has just reduced." Laparotomy a few minutes later proved this to be the case. Later Mr. Short says: "In cases of ilio-colitis there is matter on the examining finger per rectum as well as blood and mucus; in cases of intussusception there is blood and mucus. In my case there was a large greenish stool, and no blood and mucus in spite of the length of history.

*Case 2.*—A girl of 5½ years, whom I first saw on June 12th at 9 p.m. The mother gave the history of sudden pain at 11 a.m. that day, with attacks of griping pain at intervals; during the last hour they had occurred every three minutes. There had been no action of the bowel for two days, and aperients had been given the night before. The pulse was 130, temperature 99°. Pain was referred to the umbilicus. On examination I could detect no tenderness or rigidity in the right iliac fossa, and could feel a sausage-shaped tumour in the region of the splenic flexure and descending colon. On admission to hospital a glycerin enema produced a fair, rather constipated, stool. The presence of a tumour was confirmed by a colleague and the house-surgeon both before and after an anaesthetic, though less definite after anaesthesia was produced. Once again there was no blood or mucus on the examining finger. On opening the abdomen no intussusception could be found. The whole length of the small interstine was examined and found normal, but the colon was definitely injected. The caecum was found to be considerably immobilized, and a very long appendix was bound down firmly in its whole length, the tip being particularly firmly adherent by recent adhesions. To remove it it was necessary to divide the base first and then to strip it down, freeing the tip last.

I do not think that there had been an intussusception at all in this case, but that the descending colon was felt in spasm because of the aperient and the presence of a hard stool. The immobile adherent caecum makes it very improbable that there had been an intussusception which had reduced itself under anaesthesia. Following the operation her pulse rose to 150, and for thirty-six hours her condition gave rise to some anxiety, but since then convalescence has been normal.

These two cases serve as a reminder that intussusception does occur in children over 2. I think they also bear out another point—a sausage-shaped tumour occurring in the ascending and transverse colon is most likely to be an intussusception, whereas one in the descending colon may be due to muscular spasm without intussusception. The latter condition may occur in adults with constipation, particularly in visceroptosis, and is usually cleared up by an enema.—I am, etc.,

A. GREENWOOD,
Honorary Medical Officer, Huntingdon County Hospital.

Huntingdon, July 8th.

## Treatment of Heart-block

SIR,—Dr. Marshall, in his article on the treatment of heart-block in your issue of July 13th, is very enlightening on many points. He is particularly helpful in showing what can be done to help this condition. There is, however, a line of treatment which naturally he would ignore, since it is quite unscientific, but it has the saving grace of simplicity; it has been successful, and therefore can be recommended.

In June, 1932, I attended a woman, aged 59 years, who had heart-block. She was probably syphilitic, but refused to have a Wassermann done. Spurred to activity by convulsion of the Stokes-Adam syndrome, in which she got her face damaged, I tried all the remedies advocated in three text-books. The patient was sympathetic, but still strong-minded, and, not without reason, refused everything which on trial increased her nausea—a distressing symptom, which Dr.

Marshall does not dwell on. By a process of exclusion we were left with a therapeutic remedy of dilute whisky and a diet of dilute milk, and the patient was propped well up in bed, so that her head could not slide down in sleep.

At various times there convulsions. On one occasion her elderly husband, at my surgery, breathlessly told me she was dead. Her pulse rate never rose to 40, but she had no other remedies and nothing to augment her diet for the first two months of her illness. There was continuous vertigo, a certain amount of dropsy, and the merest trace of albumin on one occasion only. After five months' invalidism she was in the condition of going about on the level, a little breathless.

In December, 1932, I ceased attending her, as she was as well as I could get her, walking about carefully, but still with a pulse rate of about 40. Since 1932 I have made only occasional visits. There has been continuous improvement. Her pulse rate this year is normal. She does her own housework and has been away from home, although her feet swell a little.

Looking at her cheerful face sometimes inhibition fails me and I remember telling her husband three years ago that, since she could not tolerate any suitable treatment, the outlook was very bad.

—I am, etc.,

RICHARD BELL, M.B., CH.B.

Haydon Bridge, July 15th.

## "The Pharmacist as Pathologist"

SIR,—In a letter in your issue of July 13th, Dr. S. C. Dyke questioned a statement which I made in my address to the British Pharmaceutical Conference suggesting that it would be of assistance to the doctor if he could depend upon the pharmacist to undertake certain biochemical examinations. It is not to be expected that my opinions on this question will coincide with those of the Association of Clinical Pathologists. Nevertheless, without engaging in a controversy which is unlikely to lead either of us to alter our opinions, I may perhaps be permitted to record certain matters which are facts rather than opinions which led me to the suggestions contained in my address.

First, the fields of physiology and biochemistry should not be, and to-day are not, the exclusive province of the medical profession. There are distinguished physiologists and biochemists who do not hold a medical qualification. Next, the medical qualification by itself, while conferring obvious advantages upon a worker in these fields, is itself no guarantee of competency in them. Much of the work is essentially chemical work, for which a chemical training and outlook are required. Thirdly, there are to-day pharmacists regularly engaged in the biochemical examination of pathological specimens both in private practice and in hospitals. Again, the pathological laboratory, as Dr. Dyke truly points out, is not the place where a complete diagnosis can be made. Such a diagnosis involves the services of more experts than the chemical pathologist alone, and it is for the physician in charge of the case to make the final diagnosis after he has received reports from the clinical pathologist, the radiologist, the bacteriologist, and, it may be, other specialists. It is the function of no one of these to proceed to an ultimate diagnosis.

It is considerations such as these which lead me to the conclusion that the medical qualification, although of value, is by no means an essential for persons engaged in this work. I feel myself that one of the most unfortunate tendencies in the medical profession is this refusal to look beyond the pages of the *Medical Register*. Medicine is rapidly changing, and it is impossible to-day for the medical practitioner to become a specialist in every branch of knowledge which impinges upon medicine. The informed public may well look a little cynically upon a calling which refuses to look beyond its own boundaries and to accept competent qualified assistance, quite apart from quackery, which chances to be outside its own ranks.—I am, etc.,

F. W. CROSSLEY-HOLLAND,
Chairman, British Pharmaceutical Conference.

Bloomsbury Square, W.C.1, July 15th.

## Clean and Safe Milk

SIR,—I should like to add one word to the interesting communication of Dr. C. O. Hawthorne's in the *Journal* of July 6th, on the subject of "clean," "safe," and "*cold*" milk.

An entirely new method of delivering milk to the public is under consideration by the large milk-bottling firms of Sheffield and Derbyshire, in conjunction with the manufacturers of refrigerators, whereby the bottled milk is placed in a closed delivery van, the latter being in fact a large refrigerator, the necessary power for the compressor of the refrigerator being obtained by a direct drive from the motor of the delivery van.

The milk would thus be maintained, during transit, at a temperature of 38° F., and the bottles delivered to the consumer at that temperature. The householder may then take steps, by the means of a small refrigerator or vacuum flasks, to keep the milk at a low temperature until required for use.—I am, etc.,

E. B. HAZLETON, M.D.

Sheffield, July 14th.

## Facts and Fancies in Psychotherapy

SIR,—Having watched the growth of the ball which Dr. Crichton-Miller set rolling four weeks ago, I beg to be permitted to add the general practitioner's views on the subject.

The important point which can never be sufficiently emphasized is the fact that the bulk of *early* neurotic patients who would profit most from judicious psychological guidance do not seek advice for their functional symptoms but for some organic lesion. The general practitioner knows from his large experience that among his patients a purely functional disease is as rare as a purely organic. Irritability, for instance, is the classical privilege of the gouty husband, but nobody would try to cure the patient by psychotherapy without dealing with the gout in the orthodox manner.

But there are cases where the question of treatment becomes very acute, where it becomes obvious that ordinary therapeutics fail, although the organic lesion is fairly obvious. To whom should the practitioner entrust his patient? Intrinsic and extrinsic factors reduce the cases suitable for psycho-analysis to a very small percentage. It remains, then, to find an expert clinician who is not too proud to admit that medical treatment *can* have its uses side by side with psychotherapy. From the literature published they seem to be few.

There is no short cut to the knowledge necessary for safe and successful psychotherapy where the general practitioner is concerned. On the other hand, it is he who has the unbiased view, the broad outlook on the many-sided aspects of human suffering, which are so utterly essential for an understanding of the problem of the early functional symptoms.

It has been stated that the clinician can acquire just as much "experience of life" and common sense during his leisure hours outside the hospital. Surely such a statement can only come from someone who attaches little value to the deep insight into life which only general practice offers. Neither friends nor relations are in the habit of inviting a young clinician to inspect their private affairs with that frankness which alone permits a clear

insight. It has always been my experience that most people are only then perfectly frank, when they have to pay for the advice.

It seems that only in general practice does one acquire that humility of spirit which prepares the soil for well-balanced knowledge. One learns neither to overrate nor to despise any one particular branch of medical science. It would not be wasted time if the young psychologist, brimful with the knowledge gained during his one or three years' residentship, would devote a few years to general practice before venturing to practise his specialty—lest he forget that man lives not by spirit alone.—I am, etc.,

W. E. R. MONS, M.R.C.S., L.R.C.P.

London, W.1, July 9th.

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SIR,—Much has appeared in your columns of late on the debatable subject of psychotherapy, its practicability and its value. The general impression of these excellent and stimulating articles upon the average lay or medical reader is, I consider, somewhat misleading, and apt to cause him grave disappointment should he be encouraged to try his own hand at this specialization. It seems to me, therefore, that some corrective to a perhaps unwarranted optimism is desirable. I would not say that anything published is untrue in detail or in general conclusion. On the contrary, I know from experience that many patients are greatly benefited by a brief series of conversations with a psychologist, by reading a book on psychopathology, or even by one straight talk, which may more or less expose themselves to themselves or help them to hide themselves from themselves.

I would wish merely to correct any impression that such excellent results are at all usual or other than exceptions to the general experience of psychogenic disorders, whose main characteristic is obstinacy and intractability, and which demand infinite time, patience, and persistence on the part of a not too optimistic physician. Would that it were otherwise! Unfortunately, a revelation of the pathology of a disease does not cure sufferers in the mental field much more completely than it does in the case of physical illness. To find the tubercle bacillus is not to cure the case of pulmonary tuberculosis. The struggle only begins there. If patient or physician, or both, are not prepared for the struggle, if they decline to negotiate the enormous therapeutic obstacles before them, something, nevertheless, may have been achieved, be it only a decision to endure the now known condition—and the patient in consequence feels better.

I would wish to correct any possible impression that a small number of interviews, and the benefit they may give, represents at all adequately what psychotherapy, particularly analytical therapy, can achieve in psychoneurotic illness. Every physician is a psychotherapist, consciously or unconsciously. The general practitioner knows very well, or should know very well, that his personal rapport with his patient (or rather the latter's rapport with him)—his mode of greeting, his pose of omnipotence, austerity, detachment, friendliness, or painstaking care—is appreciated and paid for by the patient because the latter derives much satisfaction, if not his chief benefit, from it and the psychological support which it gives him. Even the bottle of medicine, its taste and its colour, are not without their therapeutic value. The friendly talks, the interest of the practitioner, and his good will may go a step further in psychotherapeutic benefit. Twenty or forty or sixty protracted sessions may attain still more. But I think it would be almost a mistake to identify such treatment too closely with the more profound modifications of the unconscious source of psychogenic disorder that deep analysis is capable of achieving, and without which the majority of sufferers are merely superficially helped to bear their troubles.

Readers of many of the brief books on psychopathology or psychotherapy and readers of articles on this subject in the medical press are, I think, apt to get the impression that psychotherapy has shot its bolt in the course of, say, five-dozen interviews, and that the majority of sufferers require even less than this to satisfy them and put them on their feet. If only it were so! If only organic disease could similarly be dismissed by a few injections, a few bottles of medicine, or a brief stay in hospital! We know from bitter experience that this is not usually the case, and the physician who believes that psychogenic disorder is an exception to the rest of medical experience is liable to suffer disappointments which will discourage his hope in a young but profound science, a long art, and, I believe, a therapy with an enormous future.—I am, etc.,

London, W.1, July 13th. CHARLES BERG.

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## Gas Attacks in War

SIR,—The protection of the civil population is engaging the energies of experts at the present time, and it also concerns us closely as a profession. There is definite uneasiness at home and abroad, and with the Home Office issuing tentative plans to the local authorities we must admit the importance of this matter and the necessity for action.

About a month ago a Mr. Davidson Pratt, before the British Science Guild, delivered a lecture which was reported in detail in your issue of June 29th. In it he said that a gas shelter based on the ventilation of filtered air was not a practical proposition. Now in this I do not agree. Anyone will admit that respirators are impossible for children and the aged. We must devise, therefore, a system of gas-proof rooms, and instruct the public how to use them. I would suggest that in each street certain houses should be detailed with this object in a proportion of one room to fifteen or twenty people, according to size. This room must have a fireplace or other vent, and a small fire lighted sufficient to assist the circulation of air. The room would then be sealed and the window covered. Air should then be introduced by some large bellows device worked manually, the air being drawn through a tube and filter-box of chemicals such as were used in the box respirator. This tube must pass to the outside air, preferably within the house itself. Thus within half an hour or less of a given warning the whole population would be protected as far as possible from everything but a direct hit, and also for a considerable time.

I submit that if such a simple apparatus could be supplied at the cost of even £2 each, and twenty people are protected thereby, the population of our vital centres would be provided for at a reasonable expenditure. I maintain that if the gas menace is met squarely in this way it will tend to disappear.—I am, etc.,

H. D. N. MILLER, M.B., B.Ch.

Haydon Bridge, July 11th.

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## Visceral Transposition as a Mendelian Recessive

SIR,—It may interest your readers to know that Taku Komai, in his *Pedigrees of Hereditary Diseases and Abnormalities found in the Japanese Race*, 1934, Pl. 18, No. 8, gives a pedigree of a family whose parents were normal. The second, fourth, and ninth children were males with complete transposition of the viscera, two other sons and one daughter were normal, and one son and three daughters died young. The pedigree was originally published by Oshima (*Grenzgebiet*, Tokyo, 1929), who apparently did not say whether the parents were blood relations or not.—I am, etc.,

E. A. COCKAYNE, D.M., F.R.C.P.

London, W.1, July 7th.

## King's College, London, and its Medical School

SIR,—In your review published on July 13th of my book *Kings and Some King's Men* there is an inaccuracy, which I beg of you to allow me to correct. On line twenty-three *Wharton* should read *Rymer*. Thomas Wharton Jones was professor of ophthalmic medicine and surgery (1851–81) at University College, London, not at King's College, and during his term of office he was one of Joseph Lister's teachers. Thomas Rymer Jones was one of the original students to attend the newly formed medical department of King's College in 1831, and became the first appointed professor of comparative anatomy at King's in 1836. He occupied the chair until 1874.—I am, etc.,

London, W.1, July 15th. H. WILLOUGHBY LYLE.

## "The Medical Directory"

SIR,—To maintain the accuracy of our annual volume we rely upon the return of our schedule, which has been posted to each member of the medical profession. Should the schedule have been lost or mislaid we will gladly forward a duplicate upon request. The full names of the doctor should be sent for identification.—We are, etc.,

J. & A. CHURCHILL, LTD.

40, Gloucester Place, Portman Square, W.1. July 15th. Publishers of the *Medical Directory*.

# Universities and Colleges

### UNIVERSITY OF OXFORD

The Master and Fellows of University College have awarded the Radcliffe Scholarship in Pharmacology to John Norton Mills, New College, and Neville Edsell Stidolph, Worcester College, equal.

### UNIVERSITY OF LONDON

#### UNIVERSITY COLLEGE

The following awards have been made in the Faculty of Medical Sciences:

*Bucknill Scholarship*, A. G. Spencer; *Entrance Scholarship*, P. M. McAllen; *Entrance Exhibitions*, J. A. James, A. Tober; *Bayliss-Starling Memorial Scholarship* (*Physiology*), R. A. Gregory; *Cluff Memorial Prize* (*Anatomy, Physiology, Pharmacology, and Chemistry*), J. D. N. Nabarro; *Schafer Prize* (*Physiology*), D. H. K. Lee, M.B., B.S.; *Anatomy and Histology* (Senior Course—gold medal), J. D. N. Nabarro; *Physiology* (Senior Course—gold medal), Elizabeth C. Marshall.

#### LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

The following candidates have been approved at the examination indicated:

ACADEMIC POST-GRADUATE DIPLOMA IN PUBLIC HEALTH.—V. FitzC. Anderson, J. H. Blakelock, Hilda L. Byett, A. Carling, H. S. Davies, G. Erskine, W. G. Evans, M. Farooq, O. M. Francis, H. A. Gilkes, J. V. Hurford, Muriel V. Joscelyne, *J. T. R. Lewis, Edyth L. Morris, V. Nadarajah, N. C. Parht, *L. M. Ram, C. J. Sanderson, H. Smith, T. Standring, *E. W. Taylor, V. T. Vagh, J. D. V. Wijeyaratne, W. W. Wildman, R. A. Wilson, E. D. B. Wolfe. *Part I*: W. Ainslie, F. H. Morrell, Sheilah R. Ross.

*Awarded a mark of distinction.

### UNIVERSITY OF SHEFFIELD

At a meeting of the University Council held on July 12th the resignation by Professor M. H. Phillips of the chair of obstetrics and gynaecology was accepted with great regret, and the Council accorded its warmest thanks to Professor Phillips for his services to the University over a period of twenty-seven years.

The following appointments were made: Mr. G. L. Roberts, M.B., Ch.B., B.D.S., as professor of dental surgery; Mr. John Chisholm as professor of obstetrics and gynaecology; Mr. W. J. Wellwood Ferguson as honorary lecturer in ophthalmology; Dr. J. MacD. Croll as lecturer in bacteriology; Dr. Edward S. Duthie as a demonstrator in pathology; and Mr. H. C. Malleson, M.R.C.S., L.D.S., as an external examiner for the Ph.D. degree.

### UNIVERSITY OF MANCHESTER

The following appointments have been made:

Dr. W. Schlapp as tutor and secretary to the Faculty of Medicine for a period of one year from September 29th; Dr. N. Kletz as lecturer in clinical medicine; Dr. W. Brockbank as lecturer in medicine for dental students; Drs. D. H. Mackay and E. L. Patterson as demonstrators in anatomy; and Dr. C. S. D. Don as demonstrator in systematic medicine.

### UNIVERSITY OF ABERDEEN

The following degrees were conferred at a graduation ceremony on July 10th:

M.D.—*F. W. Gordon, *J. S. Robertson, E. R. Sorley (*in absentia*).

M.B., CH.B.—†A. J. Slessor (with second-class honours), R. A. Barraclough, R. P. M. Brown, W. J. Cameron, A. B. Christie, Dorothy M. Chrystall, A. Crerar, Jean F. Croll, A. R. R. Cumming, G. I. Davidson, J. J. R. Duthie, N. Gill, W. T. Gordon, Margaret McN. Little, C. MacDonald, J. S. Mackay, Helen C. S. MacLean, †A. D. Morgan, B. M. Nicol, F. J. A. Norris, C. J. Silver, D. F. Smith, T. A. Smith, J. L. Stephen, D. O. Stevenson, R. MacP. Stewart, J. L. Taylor, J. M. Thomson, A. A. White, W. J. R. Wyness.

D.P.H.—J. G. H. Davidson.

*Awarded commendation for thesis. † Passed Final Medical Professional Examination with distinction.

### UNIVERSITY OF DUBLIN

#### SCHOOL OF PHYSIC, TRINITY COLLEGE

The following candidates have been approved at the examinations indicated:

FINAL MEDICAL EXAMINATION.—*Part I, Materia Medica and Therapeutics, Pathology and Bacteriology*: *E. W. L. Thompson, *J. H. A. Jewell, *J. A. Strong, *J. G. Steinbock, M. C. Wood, M. Levy, S. Tomlinson, J. M'C. Caldwell, Stella M. Coen, B. G. Kearon, D. J. H. Douglas, D. S. Toole, E. M'G. Cochrane, H. F. T. MacFetridge C. H. Blackham, Maureen N. S. Mason, P. J. Mullaney, W. D. Chesney, H. J. Walker, W. E. Counihan, E. G. Fox, Rebecca M. R. Pike. *Part II, M.B.*: B. E. O'Brien, D. P. Burkitt, G. J. Dixon, Muriel E. Wallace, Maureen C. E. Gore-Grimes, J. C. Gaffney, H. J. Anderson, H. C. Bourke, H. Pringle, E. Cowan, A. E. Fannin, J. R. Kellett, N. G. Farrell, W. Charney, B. M. O'Sullivan, D. J. Hayes, S. B. Sachs, J. R. M'Elroy, R. L. Oakes, J. C. Roux, J. A. Hamilton, F. J. C. Loughran, F. T. P. Bergin, G. W. M. Elliott, R. H. Pratt, R. A. Bond, P. X. O'Dwyer, A. F. H. Keatinge. *Old Regulations*: D. G. Walker, P. St. G. Robinson. *B.Ch.*: J. N. P. Moore, D. G. Walker, H. J. Anderson, Muriel E. Wallace, H. Pringle, B. E. O'Brien, G. J. Dixon, J. R. Kellett, D. P. Burkitt, Maureen C. E. Gore-Grimes, H. G. Ellerker, L. W. M'Caughey, M. Marmelstein, R. H. Pratt, A. D. Egan, R. H. Simon, J. R. M'Elroy, W. Charney, N. G. Farrell. *B.A.O.*: S. J. H. Douglas, G. C. Retz, J. M'Quillan, W. S. M'Bride, B. Rogol, D. P. Harris, N. Jackson, P. L. van Aardt, G. S. Caithness, Eithne M. O'Connell.

DIPLOMA IN PUBLIC HEALTH.—*Part II*: D. B. Bradshaw, G. A. Miller, J. K. Lavery, T. J. O'Sullivan.

DIPLOMA IN GYNAECOLOGY AND OBSTETRICS.—M. J. Eakin, C. F. Marks, Chan Ping In, H. A. Shawarby.

*Passed on high marks.

### QUEEN'S UNIVERSITY, BELFAST

The following degrees were conferred on July 13th:

HON. LL.D.—T. Gillman Moorhead, M.D., Regius Professor of Physic, Trinity College, Dublin.

HON. D.Sc.—Thomas Carnwath, D.S.O., M.B., B.Ch., Senior Medical Officer, Ministry of Health; Major-General W. P. Macarthur, D.S.O., M.D., F.R.C.P.I., Deputy Director-General, Army Medical Services.

M.D.—F. J. Booth, H. G. Calwell, Winifred E. Hadden, J. M. Houston, S. W. T. Lee, D. W. Macartney, D. McV. Morrison, R. W. Mussen, J. A. Price, Lilian V. Reilly, D. H. Smyth, J. M. C. Speer, G. Townsley, H. B. C. Wallace.

### ROYAL COLLEGE OF PHYSICIANS OF IRELAND

At the monthly business meeting of the College, held on July 5th, the following candidates, who had passed the Final Professional Examination under the conjoint scheme with the Royal College of Surgeons in Ireland, were duly admitted Licentiates in Medicine and Midwifery of the College:

R. Coleman, P. J. Connolly, Una M. F. Constantine, T. Curitz, E. Elmes, G. W. Franklin, Eleanor J. Grogan, J. O. P. Hayes, W. G. Hickey, R. D. Joyce, J. P. Maher, W. T. J. Mangan, J. F. G. Murphy, F. G. Ryan, P. Walsh.

## ROYAL COLLEGE OF SURGEONS OF ENGLAND

A quarterly meeting of the Council of the Royal College of Surgeons of England was held on July 11th, with the President, Sir Holburt Waring, in the chair.

The President announced that at the recent poll for election of three Fellows into the Council Sir Cuthbert Wallace and Mr. L. R. Braithwaite were re-elected, and Mr. Seymour Gilbert Barling was elected. Sir Cuthbert Wallace, Mr. Braithwaite, and Mr. Barling were introduced and took their seats in the Council.

The Council elected Sir Cuthbert Wallace as President, and Professor A. H. Burgess and Sir Charles Gordon-Watson as Vice-Presidents, for the ensuing year.

### *Diplomas*

A diploma of Fellowship was granted to Eardley Samuel Allin, and a diploma of Membership to Harold Barnard Hunt.

Diplomas were granted jointly with the Royal College of Physicians as follows:

DIPLOMA IN PUBLIC HEALTH.—A. A. Cunningham, Wilhelmina L. Devlin, H. A. Ferguson, W. P. Greenwood, E. T. Jones, B. Lal, F. J. Murphy, T. H. Parkman, S. C. St. G. C. Parry, R. W. Tannahill

DIPLOMA IN TROPICAL MEDICINE AND HYGIENE.—Lieut.-Colonel A. G. Biggam, E. M. Clark, H. J. Curran, O. E. Fisher, I. D. Gebbie, L. N. Goel, J. O. Gordon, G. MacB. Graham, G. T. Hindley, J. H. Hudson, D. C. Lahiri, J. S. McNair, P. D. Mohandirange, Théodora Papafigou, E. G. Wilkins, F. J. Wright, L. P. Younglao.

DIPLOMA IN PSYCHOLOGICAL MEDICINE.—K. Biden-Steele, S. R. Bray, A. C. Dalzell, C. C. Edwards, R. E. Hemphill, Margaret N. Jackson, D. E. Jones, T. B. Jones, W. S. Maclay, B. Matheson, I. A. Senanayeke.

DIPLOMA IN LARYNGOLOGY AND OTOLOGY.—J. W. Gerrie, K. Hunter, R. V. Rao, R. Williamson.

### *Primary Fellowship Examination*

The following have been successful at the First Professional Examination for the Diploma of Fellow:

D. A. Anderson, A. G. Apley, D. W. Ashcroft, H. C. Barry, A. D. Bateman, S. A. Beards, T. Beath, J. P. Bentley, D. Bhatia, R. D. Blachford, J. G. Bonnin, N. J. Bonnin, Janet E. Bottomley, J. F. Bourdillon, W. S. Campbell, W. M. Capper, S. R. Chandra, J. M. P. Clark, C. S. Day, T. M. J. D'Offay, E. G. Dolton, Margaret M. Ferguson, R. W. S. Fox, E. H. W. Gifford, R. G. Gilbert, M. Gordon, A. S. Gray, A. O. Green, M. H. Harmer, R. F. E. Harrington, J. Henderson, J. F. Heslop, M. J. Horgan, R. A. Hughes, L. A. Ives, J. I. P. James, C. C. Jeffery, H. Kander, M. B. Khan, D. Landsborough, C. H. W. Lawes, A. G. Leigh, J. C. Luke, K. Lumsden, A. N. McCrea, O. T. Mansfield, R. W. Mason, S. K. Menon, A. D. Messent, A. Miller, W. G. Mills, T. Moore, M. P. Morel, J. Moroney, D. V. Morse, A. Mukerji, J. H. Mulvany, C. J. B. Murray, J. D. N. Nabarro, A. A. K. Naqsh-Bandi, D. P. O'Brien, H. Park, R. A. Piachaud, C. G. Rob, A. G. Ross, R. H. Shah, C. J. C. Siggers, B. N. Sinha, A. F. Smith, Margaret D. Snelling, H. Spencer, R. A. Stephen, J. C. Stewart, F. E. Stock, H. Treissman, O. J. Vaughan-Jackson, E. Vernon, Phyllis Wade, N. J. Weinberg, W. F. Whelton, Aileen E. M. Whetnall, G. Williams, R. A. M. Yeates, F. R. Yousry.

The Hallett Prize for Anatomy and Physiology was awarded to John Philip Bentley of King's College, London; and the sixth Macloghlin Scholarship to Joseph Jacobs of Lewis's School, Pengam, Cardiff.

Sir Frank Colyer (honorary curator of the Odontological Collection) and Mr. C. J. S. Thompson (honorary curator of the Historical Collection) were reappointed for the ensuing year.

The following lecturers were appointed for the ensuing year:

*Hunterian Professors.*—Mr. A. F. MacCallan, C.B.E., one lecture on the Surgery and Pathology of Trachomatous Conjunctivitis; Dr. E. W. Twining, one lecture on a Radiographic Study of the Third Ventricle; Mr. A. Bulleid, one lecture on the Assessment of Dental Sepsis as a Factor affecting Medical and Surgical Procedures; Mr. J. Gilmour, one lecture on Adolescent Deformities of the Acetabulum; Mr. E. P. Stibbe, one lecture on the Anatomy and Surgery of the Subtentorial Angle; Mr. R. T. Payne, one lecture on Pyogenic Infections of the Parotid; Mr. G. A. Mason, one lecture on Extirpation of the Lung; Mr. A. M. Boyd, one lecture on Recent Methods of Investigation of the Peripheral Circulation in Occlusive and Spasmodic Diseases of the Vessels; Mr. H. O. Clarke, one lecture on Injuries of the Carpal Bones; Mr. F. H. Bentley one lecture on the Investigation into Wound Healing by Tissue Culture Methods; Mr. G. C. Knight, one lecture on Intestinal Strangulation; Mr. G. F. Rowbotham, one lecture on a Series of Tumours of the Skull.

*Arris and Gale Lecturer.*—Dr. John Beattie, three lectures on Temperature Regulation.

*Erasmus Wilson Lecturers.*—Mr. C. E. Shattock and Mr. Cecil P. G. Wakeley, one demonstration each on Pathology; Dr. L. W. Proger, four demonstrations on pathology.

*Arnott Demonstrator.*—Dr. A. J. E. Cave, six demonstrations on the contents of the Museum.

Mr. W. Sampson Handley was re-elected for three years as a member of the executive committee of the Imperial Cancer Research Fund.

The President reported that the Mackenzie Mackinnon Research Fund Committee had reappointed Mr. E. G. L. Bywaters a Research Fellow from November 1st, 1935, to April 30th, 1936, and Mr. L. C. Bousfield from September 15th, 1935, to April 30th, 1936.

## BRITISH COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS

At the quarterly meeting of the Council, held on July 13th in the College House, 53, Queen Anne Street, W., Sir Ewen J. Maclean, LL.D., M.D., F.R.C.P., Hon. F.A.C.S., was elected President to take office at the autumn meeting of the Council; Henry Russell Andrews, M.D., F.R.C.P., and Bethel Solomons, M.D., F.R.C.P.I., Hon. F.A.C.S., were elected Vice-Presidents; Eardley L. Holland, M.D., F.R.C.P., F.R.C.S., honorary treasurer; Sir Comyns Berkeley, M.D., M.Chir., F.R.C.P., F.R.C.S., honorary appeal treasurer; William Fletcher Shaw, M.D., honorary secretary; Frederick Roques, M.D., M.Ch., F.R.C.S., honorary librarian.

The following were elected to the Membership:

H. G. E. Arthure, London; N. Basu, Calcutta; J. R. S. G. Beard, Adelaide; B. Berger, Bloemfontein; J. Black, Johannesburg; Margaret Glen Bott, Nottingham; J. H. Boyd, New York; R. B. Charlton, Brisbane; G. A. Cook, Melbourne; W. G. Cosbie, Toronto; A. J. Cunningham, Waverley, New South Wales; Constance E. D'Arcy, Sydney; G. A. Davies, Sheffield; L. Ll. Davey, Adelaide; H. D. De Sa, Bombay; K. C. Donovan, Sydney; M. H. Elliot-Smith, Brisbane; T. Farranbridge, Sydney; H. M. Fisher, Toorak; G. P. Fitzgerald, Dunedin; M. B. Frazer, Sydney; R. I. Furber, Sydney; F. J. Hayden, Melbourne; W. I. Hayes, Melbourne; A. M. Hill, Melbourne; A. F. Hobson, Sydney; J. S. Hovell, Khartum; T. D. Hughes, Sydney; H. S. Jacobs, Melbourne; J. Jhirad, Bombay; J. L. Jona, Melbourne; Alice M. Kenny, London; H. M. Lazarus, Madras; D. M. Low, Toronto; G. B. Lowe, Croydon, New South Wales; P. I. McClure, Belfast; R. E. Magarey, Adelaide; B. T. Mayes, Brisbane; A. A. Moon, Sydney; E. L. Newman, Sydney; L. B. Patrick, Sheffield; H. Ray, Calcutta; T. G. Robinson, Epsom; W. D. Saltau, Melbourne; Ida B. Saunders, Sydney; J. A. H. Sherwin, Melbourne; G. Simpson, Ivanhoe, Victoria; T. H. Small, Woollhra, New South Wales; G. R. Sparrow, Toronto; G. R. Stoneham, New Zealand; Jane B. Stubbs, Manchester; W. E. C. Thomas, Ashton-under-Lyne; R. S. Townsend, Lucknow; H. B. Van Wyck, Toronto; R. Warden, Melbourne; J. Waterman, Port of Spain; K. Vartan, London; H. B. Williams, Sydney.

The following were admitted by the President:

To the Fellowship: Leighton Carling Conn, Edmonton, Canada (*in absentia*); Amy Margaret Fleming, London; Victor John Frederick Lack, London; William Collis Spackman, Bombay (*in absentia*); Leslie Williams, London.

To the Membership: M. D. Black, Glasgow; E. Maduram, Madras (*in absentia*); Joyce Morgan, London.

# The Services

## NAVAL COMPASSIONATE FUND

At the quarterly meeting of the directors of the Naval Medical Compassionate Fund, held on July 12th, Surgeon Vice-Admiral R. W. B. Hall, C.B., O.B.E., K.H.P., Medical Director-General of the Navy, in the chair, the sum of £70 was distributed among the several applicants.

## DEATHS IN THE SERVICES

Major Joseph Godfrey Bird, Indian Medical Service, died at Quetta on June 22nd, aged 45, of injuries received in the earthquake a fortnight earlier. He was born on May 9th, 1890, the eldest son of Mr. and Mrs. Bird of Dublin, and was educated at Trinity College, Dublin, where he graduated B.A. in 1915, and M.B., B.Ch., and B.A.O. in 1916. Entering the I.M.S. as lieutenant on January 23rd, 1917, he became major on July 23rd, 1928. He had served for several years past under the Foreign and Political Department, holding the post of residency surgeon of Meywar, at Udaipur in Rajputana, till he was transferred to that of agency surgeon, Baluchistan, at Quetta. He served in the war of 1914-18 in Iraq. His favourite recreation was music, especially Church music, in which he was an adept. He joined the British Medical Association on October 5th, 1921. He married Miss Ethel Jeffcott of Killiney; she was slightly injured in the earthquake.

# Obituary

## L. W. REYNOLDS, M.R.C.S.

A correspondent, "W.," writes: The sudden death of Dr. L. W. Reynolds of High Wycombe, recorded in the *Journal* of July 13th, leaves a blank in the ranks of the profession in Buckinghamshire, as well as in the public life of the county, which there is no computing. Lewis William Reynolds was a unique personality. Genial and sympathetic, full of robust common sense, with a picturesque old-world courtliness of manner, he radiated an atmosphere of sturdy optimism which had a tonic effect on those who came in contact with him. In a circle far beyond the bounds of his own extensive practice he came to be the confidant of those in trouble, and there must be very many to be numbered in all classes who feel with his passing the loss of a real friend. He was an admirable committee man, at his best perhaps when differences of opinion were acute, when a trite anecdote would relieve tension. His sense of humour, no less than his insight into human nature, was keen; his mind could truly be described as encyclopaedic, with this reservation that there was no dry-as-dust element in it; his conversation had a sparkling quality that made it a delightful vehicle for imparting information. To talk with him on any subject was almost invariably to gain a new perspective and add to one's knowledge, yet he had no trace of the didactic. He was an upright and good man, whose qualities ripened with age and gained instant respect. It may perhaps be added that among the many wreaths laid on his resting place was one bearing a touching tribute: "To a kind friend and a perfect landlord."

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Dr. HENRY CHARLES HEATHCOTE of Bath died at Llandilo on July 6th, at the age of 64. He was educated at Owens College, Manchester, where he graduated M.B., Ch.B.Vict. in 1893. Before going to Bath he had been in practice at Twerton for many years; he had been medical officer of the old Twerton Poor Law district, and of the Newton St. Loe district under the Keynsham board of guardians. He took great interest in the social life of the community there, and was at one time president of the Twerton Club and Institute. During the war he held a commission in the R.A.M.C., and served in France. Dr. Heathcote joined the British Medical Association in 1897, and was chairman of the Bath Division in 1928–9. He was widely respected and very popular, and his unexpected death while on a fishing holiday caused great regret. He is survived by his widow and one son, Dr. H. J. Heathcote, who is also in practice at Bath.

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Dr. GEORGE CHARLES PEACHEY, who died on July 7th, was born in Calcutta on March 16th, 1862, the son of Thomas Peachey, I.C.S., and was educated at Brighton, Taunton, and St. George's Hospital, from which he qualified in 1887. He ploughed a somewhat lonely furrow as a general practitioner, and for a time was medical officer of health for Wantage. His tastes were historical, and he was most conscientious in going to the original sources, often making journeys to remote villages to consult registers and tombstones. He was the historian of St. George's Hospital (1910), brought out the fifth edition of *The Gold-headed Cane* in 1923 with added notes and fine illustrations, and was the author of *A Memoir of William and John Hunter* (1924) which, as the reviewer in these columns said, "will prove of infinite service to Hunterian orators of future generations." For forty years he had collected medical bookplates, and besides writing on this subject had published articles on "The Origin and Evolution of the Eighteenth Century Hospital Movement" (1913–14), "Thomas Trapham (Cromwell's surgeon) and Others" (1931), and a dutiful tribute to "The Two John Peacheys, Seventeenth Century Physicians: their Lives and Times" (1918), who he found out were "not related in blood except through a far distant common ancestor." Peachey was a regular attendant at the meetings of the Section of the History of Medicine of the Royal Society of Medicine and contributed to the *Annals of Medical History*, *Janus*, and other journals.

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The following well-known foreign medical men have recently died: Dr. J. MARCOVICH of Cairo, director of *La Presse Médicale d'Egypte*; Dr. HARALD JESSEN of Basle, a specialist in lung diseases, formerly head of the Davis Waldsanatorium, aged 41; Dr. ANDREW WATSON GOODWIN, professor of dermatology and urology in the North Carolina School of Medicine; Dr. B. SOLGER, formerly extraordinary professor of dermatology at Greifswald, aged 86; Dr. ARNAUD ROUTIER of Paris, ex-president of the Société Nationale de Chirurgie, member of the Académie de Médecine; Dr. GAETANO CORRADO, emeritus professor of forensic medicine in the University of Naples; Professor WILHELM KOLLE, director of the Institute of Experimental Therapeutics and Therapeutical Chemistry in Berlin since the death of Ehrlich, and German representative of the Health Section of the League of Nations, aged 67; and Professor MAGNUS HIRSCHFELD, founder of the Institute of Sexual Science in Berlin—which was wrecked by the Nazis—at Nice, aged 67.

# Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

The House of Commons this week discussed estimates for the Home Office, for the Ministry of Health, and for the Board of Trade. The Government hoped to issue during the week the report of the Commissioner for Special Areas.

The St. Bartholomew's Hospital Bill was read a second time in the House of Commons on July 10th. It has passed all stages in the Lords.

The West Riding of Yorkshire Mental Hospitals Board (Superannuation) Bill was read a third time by the House of Commons on July 11th. This also has passed the Lords.

On July 10th the Royal Assent was given to the Finance Act and to other Acts. The Criminal Lunatics (Scotland) Bill was reported to the Commons from Standing Committee, with amendments, on July 11th.

The Diseases of Animals Bill, which has passed the Lords, was considered on report and read a third time by the Commons on July 12th.

On the report stage of the University of Durham Bill, in the House of Commons on July 12th, Clause 2 was amended to provide that all expenses incurred by the Commissioners in carrying out the Bill, including remuneration to their employees, should be paid out of money provided by Parliament. An amendment relating to the costs of petitions was made in the schedule. The Bill, with these amendments, was read a third time. It has already passed the House of Lords.

The Public Health (Water and Sewerage) (Scotland) Bill was read a third time by the House of Commons on July 15th.

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### Nutrition Committee

Mr. LEES-JONES, on July 11th, asked if the Minister of Health would take steps to ensure that the Food Values Committee sought evidence from, among other sources, "those members of the medical profession who have specialized knowledge about foodstuffs, albeit regarded as unorthodox by the British Medical Association." Sir KINGSLEY WOOD replied that it was for the committee to decide what evidence it would take. He had no doubt that Mr. Lees-Jones's suggestion would be considered.

Sir WILLIAM JENKINS, on July 11th, asked the Minister of Health to appoint some medical expert from South Wales or

Monmouthshire, who had experience of the depressed areas, on the advisory committee now considering the question of national nutrition. Sir KINGSLEY WOOD, in answer, said he had decided to appoint the Senior Medical Officer of the Welsh Board of Health to be a member of this committee.

## Tuberculosis Death Rates

Sir ARNOLD WILSON asked the standardized death rate from non-pulmonary tuberculosis and tuberculosis of the intestines and peritoneum for the past three years as compared with the previous decennium, and the distribution of non-respiratory tuberculosis mortality at ages 0 to 5, 5 to 15, and 15 to 25 in England and Wales, distinguishing between London, county boroughs, other urban districts, and rural districts for the years 1933 and 1934, as compared with the triennium 1930–2.

Sir KINGSLEY WOOD, on July 9th, said the particulars desired for England and Wales, so far as available, were shown in the following table:

*Standardized Death Rates (per Million Population)*

| | Non-pulmonary Tuberculosis | | Tuberculosis of the Intestines and Peritoneum | |
|---|---|---|---|---|
| | Males | Females | Males | Females |
| 1921 ... ... | 269 | 254 | 66 | 63 |
| 1922 ... ... | 278 | 240 | 56 | 54 |
| 1923 ... ... | 264 | 235 | 56 | 56 |
| 1924 ... ... | 252 | 226 | 54 | 52 |
| 1925 ... ... | 248 | 213 | 50 | 48 |
| 1926 ... ... | 229 | 201 | 45 | 43 |
| 1927 ... ... | 223 | 194 | 40 | 39 |
| 1928 ... ... | 212 | 187 | 39 | 39 |
| 1929 ... ... | 211 | 179 | 37 | 35 |
| 1930 ... ... | 199 | 175 | 34 | 32 |
| 1931 ... ... | 196 | 171 | 31 | 32 |
| 1932 ... ... | 195 | 165 | 32 | 27 |
| 1933 ... ... | 172 | 148 | 27 | 28 |
| 1934 ... ... | Not yet available | | Not yet available | |

*Non-pulmonary Tuberculosis: Mortality per 100,000*

| | 1930–32 | 1933 |
|---|---|---|
| Persons aged 0–5: | | |
| London administrative county ... ... ... | 52 | 44 |
| County boroughs ... ... ... ... ... | 78 | 65 |
| Other urban districts ... ... ... ... | 65 | 53 |
| Rural districts ... ... ... ... ... | 51 | 53 |
| Persons aged 5–15: | | |
| London administrative county ... ... ... | 16 | 13 |
| County boroughs ... ... ... ... | 22 | 17 |
| Other urban districts ... ... ... ... | 16 | 15 |
| Rural districts ... ... ... ... ... | 15 | 12 |
| Males aged 15–25: | | |
| London administrative county ... ... ... | 15 | 15 |
| County boroughs ... ... ... ... ... | 18 | 18 |
| Other urban districts ... ... ... ... | 17 | 13 |
| Rural districts ... ... ... ... ... | 15 | 14 |
| Females aged 15–25: | | |
| London administrative county ... ... ... | 10 | 10 |
| County boroughs ... ... ... ... ... | 16 | 13 |
| Other urban districts ... ... ... ... | 15 | 13 |
| Rural districts ... ... ... ... ... | 14 | 14 |

NOTE.—The figures for 1933 have been calculated specially. The corresponding figures for 1934 are not available.

Sir ARNOLD WILSON further asked the number of new cases and deaths from pulmonary and non-pulmonary tuberculosis respectively for the past five years, and the respective notification and death rates per million, and the percentage of new cases of tuberculosis which came to knowledge otherwise than by formal notification for each year, showing separately posthumous notifications. In reply Sir KINGSLEY WOOD furnished, on July 9th, the following table for England and Wales:

| | Pulmonary | | | Non-pulmonary | | | Formal Notifications | | | | New Cases of Tuberculosis which Came to Knowledge otherwise than by Formal Notification | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Pulmonary | | Non-pulmonary | | | | | |
| Year | Total New Cases* | Deaths | Death rate per Million Population | Total New Cases* | Deaths | Death rate per Million Population | Number | Rate per Million Population | Number | Rate per Million Population | Posthumous Notifications | Percentage of Total New Cases | Total, Including Posthumous Notifications | Percentage of Total New Cases |
| 1930 | 54,331 | 29,414 | 739 | 18,670 | 6,336 | 159 | 49,187 | 1,236 | 16,284 | 409 | 641 | 0.88 | 7,530 | 10.32 |
| 1931 | 54,596 | 29,658 | 742 | 18,378 | 6,160 | 154 | 49,505 | 1,238 | 15,963 | 399 | 604 | 0.83 | 7,506 | 10.29 |
| 1932 | 51,836 | 27,627 | 687 | 17,956 | 6,031 | 150 | 46,579 | 1,159 | 15,499 | 386 | 715 | 1.02 | 7,714 | 11.06 |
| 1933 | 49,958 | 27,854 | 690 | 15,393 | 5,405 | 134 | 44,482 | 1,102 | 14,095 | 349 | 648 | 0.98 | 7,774 | 11.72 |
| 1934 | 48,308 | 25,682 | 635 | 16,022 | 5,200 | 128 | 43,034 | 1,063 | 13,694 | 338 | 651 | 1.01 | 7,502 | 11.68 |

* Formal notifications and cases coming to knowledge otherwise.

## Balconies for High Working-class Flats

In the House of Lords, on July 15th, the Housing Bill was considered on report. The EARL OF DUDLEY moved an amendment to Clause 31 (Exchequer Contributions towards Provision of Flats on Sites of High Value), to ensure that the approval of the Minister of Health should not be given to flats for the working classes unless he was satisfied that each flat in a block exceeding three stories in height was provided with a balcony. Lord Dudley said that medical evidence showed that in the case of families living in the top stories of flats infant children suffered because their mothers were unable to take them out into the air and sunshine. Architectural and technical research showed that the cost of erecting balconies on high flats would amount to very little. Since this matter was raised in the committee stage he had consulted the Minister of Health, with his medical and architectural experts. He understood that the Minister recognized the desirability of such balconies, but that there were certain difficulties in the way of making this provision statutory. The Minister, however, was willing to give an assurance that he would emphasize the desirability of the provision of these balconies in a circular to the local authorities. Recognizing the genuine sympathy of the Minister, he (Lord Dudley) thought that that would meet the case he had in mind. Viscount HALIFAX said he could give the assurance which Lord Dudley desired. The Minister of Health would see that this matter was mentioned in the circular which he proposed to send to local authorities.

The amendment was withdrawn, and the Bill passed the report stage.

## Maternity Benefit in Extended Insurance Period

In the House of Commons, on July 15th, the National Health Insurance and Contributory Pensions Bill was considered on report.

Sir KINGSLEY WOOD moved an amendment to provide maternity benefit to insured persons during their extended insurance period. He said that a general desire was expressed in the committee stage for this concession. It was difficult to forecast with any precise accuracy the cost of this proposal, as it depended on uncertain factors, including the number of persons who would pass into the extended insurance period, and the birth rate prevailing among such persons. A close investigation had been made into the finance of the health insurance scheme, and modifications had been introduced into the Bill in connexion with the setting up of the Unemployment Arrears Fund. As a result they had found a source from which the additional cost could be met. This was the balance of the unclaimed stamps money, which the Act did not require to be paid to the Central Fund. Therefore he was able to meet the wishes of the House in this respect and at the same time not cast any further burden on the funds of the approved societies.

The amendment was agreed to, and four consequential amendments were made.

On the motion for the third reading of the Bill Sir KINGSLEY WOOD said it was satisfactory to know that those who had elected as voluntary contributors to continue their insurance would be able, on complying with the usual conditions, to obtain the benefits given to unemployed persons in the continuation of insurance. He was glad the amendments made in this Bill would facilitate the consolidation of the statutes respecting national health insurance. The Bill secured that an insured person who had occasional periods of unemployment not exceeding twenty-one months in duration should not suffer any reduction whatever in benefits to which he or she might be entitled. His arrears would be completely excused and the benefit periods for a person would be treated as if he had been in continuous employment. This would affect some 5,000,000 insured persons. The Bill went further, and provided for the more unfortunate person who suffered from prolonged unemployment. Any person who had been insured for ten years before becoming unemployed would be entitled to medical and maternity benefits, and his old age and widows' and orphans' pensions right would be maintained unimpaired as long as his unemployment continued. In making these changes the financial stability of national insurance was not jeopardized, and as far as approved societies were concerned the changes would simplify the working of national health insurance.

The Bill was read the third time.

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*Vaccination and Small-pox Statistics.*—Sir KINGSLEY WOOD, in an answer to Mr. Groves on July 10th, said small-pox case rates for each administrative county (including associated county boroughs) had been published for the years from 1922 to 1930 inclusive in the Registrar-General's Statistical Review for those years (Part I, Table 28). The publication of these rates was discontinued after 1930, but the numbers of cases were given in Table 29, and the corresponding populations in Table 17 of the Review. It was regretted that percentages of births vaccinated were not available for administrative counties.

*Hospitals' Loss through Lotteries Act.*—In an answer to Colonel Acland-Troyte, on July 11th, Sir JOHN SIMON said he had no information on which to estimate the amount of money which would be lost annually as a result of the Betting and Lotteries Act. During the passage of that Act Parliament had considered proposals for legalizing lotteries in aid of hospitals and other charities, but had rejected them. So far as he knew, the Act did not make illegal any type of lottery which was previously legal. Colonel ACLAND-TROYTE, who represents the Tiverton Division, asserted in a supplementary question that his local hospital had lost £700 or £800 a year owing to this Act. Sir John Simon said it must be borne in mind that if efforts were made to finance hospitals in this country by means of lotteries it did not follow that existing sources from which hospitals received help would continue to flow.

*Virus of Foot-and-Mouth Disease in Frozen Meat.*—Sir GEORGE BOWYER, replying for the Ministry of Agriculture on July 11th, told Colonel Todd that although there was no evidence that the virus of foot-and-mouth disease could remain alive in the flesh of chilled or frozen meat during the transit from South America to the United Kingdom, it would be possible for the virus to survive in the bone marrow of such meat.

*Lunacy and Mental Deficiency.*—On July 11th Mr. GUY asked the Minister of Health to consider amending the lunacy laws, with the object of providing differential treatment for mental deficiency. Sir KINGSLEY WOOD replied that in England and Wales the Mental Deficiency Acts, 1913 to 1927, made express provision for the ascertainment and treatment of mental defectives, as distinct from persons dealt with under the Lunacy and Mental Treatment Acts, 1890 to 1930. He was not aware of circumstances necessitating action such as Mr. Guy suggested.

*Bacteria in Milk: Destruction by Germicide.*—Mr. RICKARDS asked Sir Kingsley Wood, on July 11th, whether the new process of adding germicide to milk for destroying bacteria had been brought to his notice, and whether he would have the process tested and investigated and consider whether any modification of the Food and Drugs Adulteration Act would be required to permit of milk so treated being sold on a commercial scale. Sir KINGSLEY WOOD answered that he had recently been informed of a claim to the discovery of a new germicide for milk. He had no knowledge of its composition and no sample had been supplied to his Department. The addition of any germicide to milk would be contrary to the provisions of the Preservatives Regulations and the Food and Drugs (Adulteration) Act. For reasons set out in the report of the Departmental Committee on Preservatives in Food he could not contemplate any amendment of the law in this respect.

*Infant Mortality Increase at Hebburn-on-Tyne.*—Sir KINGSLEY WOOD told Mr. Pearson, on July 11th, that he had received the annual report of the medical officer of health for Hebburn-on-Tyne, which stated that the infantile mortality rate had risen from 86 per 1,000 live births last year to 108 this year, and that for every 116 babies born last year a mother died, the average being almost double that for the whole country. Sir Kingsley Wood said he had arranged for one of the medical officers of the Ministry of Health to visit the district and inquire into the relevant circumstances.

*Experiments on Animals.*—In the House of Commons, on July 15th, on the motion of Captain WALLACE, a return was ordered of licences granted under the Act 39 and 40 Vict. C. 77, showing the number of experiments performed under that Act during 1934 and the registered places at which such experiments might be performed.

*Small-pox Vaccination.*—Sir KINGSLEY WOOD, on July 15th, told Mr. Groves that vaccination against small-pox for newborn children first became obligatory in this country in 1853. While it was not easy precisely to assign particular effects to this measure, its immediate practical effect might be gauged from the fact that whereas in the six years 1847 to 1852 the average annual mortality from small-pox per million living persons was 326, the average figure for the six years 1854 to 1859 was 187.

*Diplomas for Herbalists.*—On July 15th Sir KINGSLEY WOOD told Sir Ernest Graham-Little that he was aware that the Statute 34 and 35 Henry VIII C.8, making provision whereby persons having a certain knowledge of herbs and roots could engage in some branches of medical practice, was still in force. He had not previously been aware that the College of Botanic Therapy claimed under that charter to be privileged to issue diplomas conferring legal status differing from the status of herbalists who had not such diplomas. He did not know on what that claim was based, but he did not feel called on to take any steps in the matter.

*Medical Officer's Inspections at Barlinnie Prison.*—Mr. LEONARD, on July 16th, asked if the Secretary of State for Scotland knew that prisoners in Barlinnie Prison, ordered to their cell beds as sick, were forced to parade at the prison surgery the following morning, along with the prisoners reporting sick; that influenza patients had had to conform to this practice. He asked Sir Godfrey Collins to ensure that prisoners ordered to bed as sick would be visited in their cells by the medical officer before being called to parade with the ordinary sick. Sir GODFREY COLLINS replied that prisoners in Barlinnie who had been ordered to bed because of ailment were not paraded at the surgery on the following morning, except when the ailment was a minor one. If the prisoner complained of feeling unwell he was kept in bed until examined by the medical officer. Where influenza had been diagnosed the prisoner was not paraded at the surgery, but was either admitted to the prison hospital or kept in bed in his cell until the medical officer certified him as fit to get up. The practice did not seem to call for any alteration. The Prisons (Scotland) Rules provided that the governor and medical officer of each prison should jointly inspect every part of the prison establishment in the last month of every quarter, and that the results of these inspections should be recorded by the medical officer in his journal. Owing to the length of time necessary to make a thorough inspection of the whole establishment at Barlinnie Prison it had not always been practicable for the governor and medical officer to make joint inspections, and steps were being taken, in the course of the comprehensive revision of the Prisons Rules now in progress, to amend those dealing with this matter. At Barlinnie Prison the medical officer's inspections were recorded in the medical officers' journal on September 28th, 1934; December 21st, 1934; March 29th, 1935; and June 21st, 1935.

*Advertising of Patent Medicines.*—The Minister of Health is not able to make any statement with regard to possible legislation to control the advertising in this country of patent medicines.

# Medical News

For the purpose of necessary redecoration and repair the Library of the British Medical Association will be closed for three weeks from Saturday, August 10th.

The annual dinner of past and present students of St. Mary's Hospital Medical School will be held at Claridges Restaurant on Saturday, September 28th, at 7.30 p.m., with Mr. Duncan C. L. Fitzwilliams in the chair. The honorary secretary is Dr. A. Hope Gosse. The post-graduate course (open to all medical practitioners without fee) will take place on Friday, Saturday, and Sunday, September 27th, 28th, and 29th.

The Society of German Neurologists and Psychiatrists will hold their annual meeting at Dresden from August 28th to 30th, when the chief subjects for discussion will be: (1) Late syphilis of the central nervous system, including general paralysis. (2) Early diagnosis of inherited psychoses. (3) The distinction of morbid mental debility from physiological limitations. (4) The participation of psychiatrists in carrying out the State aims of racial hygiene. Further information can be obtained from Professor Nitsche, Pirna.

It is announced that the Gout and Uric Acid Congress, organized by the Société de Médecine de Vittel, will take place on September 14th, 15th, and 16th, 1935. Honorary presidents include Professors Desgrez, Bezançon, Marcel Labbé, and Paul Carnot. Clinical, biological, hydrological, therapeutic, and experimental sections have been arranged, and a number of communications to be read at the meeting have already been listed. Doctors desirous of attending the congress are invited to apply to the administrative secretary, M. Chavane, at Vittel (Vosges). A subscription of 50 francs for members and associates is asked for. Further information may be obtained from the general secretary of the congress, Dr. Maurice Boigey, Vittel, Vosges, France.

In connexion with the International Congress of Life Assurance Medicine an exhibition dealing with health service and life assurance, organized by Dr. Neustätter of Berlin, is being held at the office of the Prudential Assurance Company, Holborn Bars, E.C.1. Any medical men interested in the subject will be welcome on Tuesday, July 23rd, from 10 a.m. to 5 p.m., upon presentation of their visiting card.

It is announced that Professor I. P. Pavlov, for all his 86 years, has decided to attend the International Neurological Congress in London at the end of this month, the International Physiological Congress in Leningrad in September, and next year's Psychological Congress in Madrid.

The Advisory Committee has recommended, and the Trustees have approved, twenty nominations to Leverhulme Research Fellowships and seven grants in aid of research, tenable for varying periods up to two years. Three awards are made to members of the medical profession: D. B. Blacklock, M.D., D.P.H., professor of tropical medicine, University of Liverpool: subject, "A Study of the Present Practice of Hygiene (including Rural Hygiene) in Certain Eastern Countries." Mrs. M. G. Blacklock, B.Sc., M.B., B.Ch., curator of the museum, Liverpool School of Tropical Medicine: "A Comparative Study of the Organizations for the Improvement of Health of Women and Children in Eastern Countries." J. W. W. Stephens, M.D., D.P.H., emeritus professor of tropical medicine, University of Liverpool: "Treatise on Blackwater Fever in its Historical, Clinical, and Other Aspects." Application forms and further information may be obtained from the Secretary, Leverhulme Research Fellowships, Union House, St. Martins-le-Grand, London, E.C.1.

The Liaison Committee of Major International Associations, which includes the Carnegie Foundation for International Peace, the League of Red Cross Societies, the Save the Children International Union, and the International Council of Women, has just issued a memorandum on "Unemployment among Young Persons" which was presented to the International Labour Conference in Geneva. It deals, among other things, with the need for more adequate preparation for the workaday life, and urges the raising of school age, and the minimum age for entering employment, to 15. Copies of the memorandum may be obtained from the Weardale Press, 40, Gordon Square, London, W.C.1 (price 6d.).

On July 16th the *Grace Harwar*, of 1,816 tons, one of the last fully rigged sailing ships, left Victoria Dock on her last voyage—to Rosyth, where she is to be broken up. Friendship has always existed between this ship and the Albert Dock Hospital, one of the branches of the Seamen's Hospital Society. When she first took the water in 1889 the hospital opened its doors to sick and injured seamen in the world's greatest port, and on every visit to the Thames her captain and crew called at the hospital to renew friendships with the matron and staff.

The April–June issue of the Epidemiological Report of the Health Section of the League of Nations contains a review, by Dr. Melville D. Mackenzie, of some of the research work during the past four years on the distribution, aetiology, treatment, and prophylaxis of trachoma.

The issue of *Paris Médical* for July 6th is devoted to diseases of nutrition.

*La Riforma Medica* of Naples celebrates its jubilee this year, having been founded by Professor Gaetano Rummo in 1885.

The issue of *Wiener medizinische Wochenschrift* for June 22nd is devoted to oto-rhino-laryngology.

In his recent thesis (*Thèse de Paris*, 1935, No. 11) H. Zeiler gives lists of the subjects and authors of the medical articles contributed to Diderot and D'Alembert's *Encyclopaedia*, of which the first edition was published between 1751 and 1777.

The advisory committee in connexion with the scheme for anthrax disinfection has been reconstituted by the Home Secretary. The only medical member of the new committee is Dr. J. C. Bridge, H.M. Senior Medical Inspector of Factories.

The Board of the Institute of Physics, at the request of a number of corporate members resident in Birmingham, Leicester, Nottingham, and Rugby, has created a local section for the Midland area.

The Princess Royal has appointed Dr. L. F. R. Knuthsen, C.V.O., O.B.E., to be Physician in Ordinary to Her Royal Highness.

Professor W. Fletcher Shaw of Manchester has been elected an Honorary Fellow of the American Gynaecological Society.

On the initiative of Dr. E. G. Minopoulos an international society of foreign practitioners trained in French universities has recently been founded. Further information can be obtained from Dr. Minopoulos, Avenue de Fontainebleau, Avon-Fontainebleau, Seine-et-Marne.

Professor Alfredo Sordelli, director of the Bacteriological Institute of the Argentine Department of Public Health, has been elected a member of the Permanent Committee of Biological Standardization of the Health Section of the League of Nations.

Drs. de Wildeman of Ghent, Fernandez of Madrid, Angelesco of Bucarest, and Presno Bastioni of Havana have been nominated foreign corresponding members of the Académie de Médecine.

Professor W. Schulemann has been elected an honorary corresponding member of the Section of Tropical Diseases and Parasitology of the Royal Society of Medicine.

The Municipal Moabite Hospital of Berlin has been renamed Robert Koch Hospital on the occasion of the twenty-fifth anniversary of his death.

According to a publication of the Health Section of the League of Nations, there are 235,000 blind persons in Soviet Russia. In 25 per cent. the cause of blindness was trachoma, in 25 per cent. glaucoma, and in the rest gonorrhoea or accident.

# Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, B.M.A. House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone, unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs. Authors over-seas should indicate on MSS. if reprints are required, as proofs are not sent abroad.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBER** of the British Medical Association and the *British Medical Journal* is EUSTON 2111 (internal exchange, five lines).

The **TELEGRAPHIC ADDRESSES** are
EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*
FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*
MEDICAL SECRETARY, *Mediseera Westcent, London.*

The address of the Irish Office of the British Medical Association is 18, Kildare Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 24361 Edinburgh).

## QUERIES AND ANSWERS

### Prevention of Xerodermia in an Unborn Child

"INTERESTED" writes: I should be pleased if anyone could give me information about prenatal treatment of a lady three months pregnant, a multipara of 38 years, who has suffered from childhood with xerodermia (her sister has also the same complaint, but in a lesser degree). This lady has two children—a boy aged 14, and a girl 12 years. The boy has a good skin, but the girl has been worse than ever her mother has been. I am anxious to find out anything that would ensure the coming baby having a clear skin.

### Income Tax

*Recommencement of Earnings*

"D. C." went to a Dominion for health reasons in June, 1932, and did no work until February, 1933. He was assessed in the sum of £90 at 2s. 6d. (for his share of the partnership profits) for 1933–4, and again on the same amount for 1934–5. Is this not a double assessment on the same income?

*** If—as we gather—the second assessment covers his liability for the whole of the year ending April 5th, 1935, D. C. would seem to have no ground of complaint for that year. If, however, there was some special rearrangement as to division of the firm's earnings for 1933–4 he should see that he was not asked to pay on substantially more than his income for that year; if he has, then perhaps some portion of the tax assessed on his share for that year should be demanded from his partner, who presumably took over the additional work and the additional share of income during D. C.'s inability to carry on his work.

## LETTERS, NOTES, ETC.

### Maxillo-Facial Injuries

An advisory standing committee was appointed by the Army Council in May, 1932, to investigate and report on facilities for the treatment of the large percentage of wounds to the jaw and face which occur in modern warfare. This committee investigated particularly the provision of special hospitals or departments in general hospitals for maxillo-facial cases; the general lay-out, special features, equipment of such hospitals or departments; the general principles of treatment in the field and in such a special hospital or department; and the training of dental officers in the principles of preliminary treatment in the field. A report has now been issued on maxillo-facial injuries; it may be obtained from H.M. Stationery Office through any bookseller, price 6d. net. A comprehensive survey of the whole subject is therein presented, with a full account of the general principles of treatment, both in the field and in hospital. For instance, the points in favour of and against interdental wiring and cap splinting in the control of fragments in jaw injuries are tabulated in an appendix comprising memoranda submitted respectively by Mr. Warwick James and Mr. W. Kelsey Fry. Among other conclusions it is recorded that a special hospital of 200 to 500 beds reserved solely for the treatment of maxillo-facial injuries is preferable to special departments in general hospitals, provided that this is justified by the number of cases. An auxiliary hospital or annexe should be attached to each for the reception of cases during the intervals of treatment. For a small war, one such hospital with its auxiliary might suffice, but for a larger campaign it might be necessary to reserve hospitals for particular types of cases, such as fractures with little or no loss of hard tissues, requiring chiefly the attention of the dental surgeon, and gross injuries to head and/or soft tissues necessitating the services of plastic or other specialist surgeons as well as dental surgeons.

### Nursing of Colotomy

Nurse KATE MAXEY (Durham) writes: Here is a practical hint for the nursing of a colotomy patient. From experience I have found that a level teaspoonful of salts in warm water, followed by a cup of tea, acted after an interval of from forty to forty-five minutes. A bedpan is arranged by means of a basin four inches deep and about six inches wide, covered with grease-proof paper fastened with a rubber band. Next cut a hole in the centre of the paper large enough for the colotomy opening. Blow up an air cushion as high as the basin, and place the basin in the centre. Turn the patient on to his or her side over the centre hole, and keep in this position for three-quarters of an hour. This treatment, I have found, minimizes the unpleasantness for the patient, and also saves soiled bandages, dressings, and garments. I have recently tried it with considerable success.

### Periodic Fertility and Sterility

Dr. MARIE C. STOPES (President of the Society for Constructive Birth Control and Racial Progress, 108, Whitfield Street, W.1) writes: Your review of the book *Periodic Fertility and Sterility in Women: A Natural Method of Birth Control*, by Professor Knaus, requires supplementing lest the allegation that there is a natural "safe period" in women be taken more seriously than it deserves. The book setting out this alleged method, called *The Rhythm*, has recently caused much perturbation in America, and the large number of undesirable pregnancies which resulted from trusting the method caused a discussion in the American Legislature. We invite any of your readers who are interested to come to our reference library to see the verbatim report of the discussion published by the U.S.A. Government in "Hearings of Subcommittee No. 8" which has just reached us.

### N.A.P.T. Conference Report

*Corrigendum*

In our report of the Southport Conference of the National Association for the Prevention of Tuberculosis (July 6, p. 30), the name of Major A. B. Mattinson, F.R.C.V.S., was erroneously given as "Atkinson."

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The Medical Supply Association, Ltd. (Gray's Inn Road, W.C.1, and 95, Wimpole Street, W.1), have published an illustrated pamphlet on heat therapy, giving particulars of a wide range of apparatus suitable for the application of radiant heat, intra-red ray therapy, chromotherapy, etc.

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### Vacancies

Notifications of offices vacant in universities, medical colleges and of vacant resident and other appointments at hospitals will be found at pages 39, 40, 41, 42, 43, 47 and 48 of the advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 44 and 45. A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 32.